PANOPTICON.

POSTSCRIPT.

§ 1. *PRINCIPAL PARTICULARS.*

Principal Particulars either ſettled or altered, ſince the firſt haſty deſign, as deſcribed in Letter II. and imperfectly repreſented in Plate I. *See Plate II.*

1. ANNULAR WELL, or vacancy, all the way up, crowned by an uninterrupted opening *Sky-light*; inſtead of Stories of Intermediate Annular Area to every two *Stories* of Cells.

2. *Cells* enlarged in depth, by throwing into them the ſpace occupied in the firſt deſign by the *Protracted Partitions*, and by giving to the Upper Row in each pair the ſame depth as to the Under Row.

3. *Cells*, two laid into one.

4. *Cells, number of Stories*, ſix inſtead of four.

5. *Chapel*, a regular one, now inſerted in the center: partly inſtead of the ſmall Central Area. partly at the expence of the ſeveral ſtories of Inſpection Lodge.

6 Inſtead of three *ſimilar* ſtories of *Inſpection-Lodge*, in the two upper ſtories Annular *Inſpection-Galleries*, backed by the Chapel-Galleries, in the loweſt ſtory *annular Inſpection Gallery*, encloſing a *circular Inſpector's-Lodge*.

7. No *Cupola*, a part inſerted in the firſt haſty ſketch, rather by way of finiſh, than with a view to any ſpecial uſe.

8. The *Dead part*, viz. that part of the circuit in which there are no Cells, here occupying 5-24ths of the circuit inſtead of 2-48ths, *i.e.* 1-24th: in height five ſtories out of ſix, inſtead of two out of four, and covered by a *projecting Front*.—N. B. This Dead part, depending in point of magnitude and diſpoſition ſo much upon local and other individual *data*, could not well be ſettled in all its parts, and accordingly is not repreſented in the draught.

9. *Communications*, now partly altered, partly fixed: particularly the only thorough paſſage, termed

termed the *Diametrical Paſſage*, now cut through a ſunk ſtory, and at its exit, joined by a *Covered-Way*, projected downwards from the lowermoſt Inſpection-Gallery, and terminating in a central *Look-out* for the inſpection of the yards.

10. The form *polygonal* (a double duodecagon, or polygon of 24 ſides) inſtead of circular.

11. Diameter——According to the preſent draught 120 feet (excluſive of the projecting Front) inſtead of 100 feet, the diameter thought of in the original imperfect ſketch with a view to local circumſtances. *

12. *Materials—Iron* much employed, and uſed for the Cell-Galleries, for Staircaſes, for Doors, and even for Pillars, chiefly hollow, inſtead of brick, ſtone, or wood.—*Plaiſter*, propoſed for the Cell-floors.

13. Mode of ſupplying the building with water: chiefly by an *Annular Ciſtern* running round the top of the building: under the roof, immediately within the wall.

* Twenty foot, the addition made to the diameter, multiplied by three gives 60, the addition to the circumference: this divided by 24, the number of the cells, gives $2\frac{1}{2}$, the addition made to each cell at the outſide of the wall; *i. e.* at the extreme circumference, round which the polygon is circumſcribed.

14. Mode of *Warming* the Building: by ſtreams of freſh air, heated in the new way by paſſing through the inſide of veſſels, to which fire is applied on the outſide: inſtead of ſtagnant air, heated by its contiguity to hollow receptacles to which fire is applied on the inſide, as in the ordinary German ſtoves and hot-houſe flues.

15. *Outlets* or *External Area*, ſettled in ſubordination to the inſpection principle: the *Covered-Way* a *ſemi-diameter* of the area, terminating in a *central Look-out*, inſtead of encompaſſing the area, and being attached to the ſurrounding wall.—*See Plate* 3.

16. *Approach* and ſurrounding fences, now firſt ſettled: and that too in ſtrict ſubordination to the ſame principle. *See again Plate* 3.

N. B. The degree of anxiety, diſplayed in the plan of exterior fortification there exhibited, had a more particular view to the ſtate of things in Ireland than in England.

With relation to moſt of theſe points further elucidation will be neceſſary: and with regard to ſeveral of them ſomething in the way of juſtification will be expected: ſuch will be the buſineſs of the enſuing pages.

§ 2. *GENERAL*

§ 2. *GENERAL VIEW OF THE WHOLE EDIFICE.*

In a General View of the whole Building, according to its preſent form; three very different though connected maſſes may be diſtinguiſhed--

1. THE *Projecting Front:* a rectangular maſs, which, being deſigned to go towards furniſhing habitation for the Officers of the Eſtabliſhment, has little to diſtinguiſh it from a common dwelling-houſe.

3. The *Cellular* part: including as well that part of the circuit which is actually diſpoſed of in cells, as the *Dead part*, which for the ſake of ſtability it is thought neceſſary to lay out in the cellular form, although for want of light, as being covered by the front, it would not be conveniently applicable to the ſame uſe.

3. The *Inſpection-Tower:* comprehending on one ſtory the lowermoſt Inſpection-Gallery, with the

incloſed Inſpector's Lodge; in another, the middlemoſt Inſpection-Gallery, in which is incloſed the lowermoſt Chapel-Gallery, and within that again the Area of the Chapel; * on a third, the uppermoſt Chapel-Gallery.

The Cellular maſs, together with the Inſpection-Tower incloſed within it, compoſe the characteriſtic part of the building: the projecting Front forms an accidental and ineſſential appendage.

The whole of the characteriſtic part may be conceived as compoſed of two Towers, one within the other, with the Annular Well between them. †

A particularity that will require to be conſtantly kept in mind is, that in the two polygono-cylindrical maſſes, the circumſcribing and the inſcribed, not only the numbers of the ſtories do not agree, the latter having but half the number of the former, but that no one ſtory in the interior part coincides in point of level with any one ſtory of the ex-

* The Area of the Chapel cannot perhaps in ſtrictneſs be ſaid to form part of the ſame ſtory with the lowermoſt Chapel-gallery. The floor being ſeveral foot below the level of that of the Gallery, may be looked upon as forming in that part a ſtory by itſelf. But this want of exact coincidence is no more than what occurs frequently in common houſes.

† By analogy, the Inſpection-Tower might be termed the *medullary* part: the cellular part, the *cortical*.

terior

terior that ſurrounds it. This want of coincidence is not an accidental but a characteriſtic and almoſt eſſential circumſtance: ſince it is by being placed about midway between the floor and the cieling of the lowermoſt of each pair of Cells that one floor in each ſtory of the Inſpection Tower affords a perfect view of two ſtories in the Cellular part.

Principal Dimenſions of the *Polygonal* Part, comprehending the *Cellular Part*, with the included *Inſpection-Tower*, being the whole of what is repreſented in Plate II.

Widths.

Semidiameter of the area of the Chapel, including the central aperture,	—	15
Width of a Chapel-Gallery,	——	12*
Width of an Inſpection-Gallery †,	—	5

* In ſome of the impreſſions of the Draught, by miſtake 9 feet only

† In ſome of the impreſſions of the Draught, the lowermoſt of theſe Galleries has three feet of addition given to it, at the expence of the included Lodge: this addition it is now propoſed to take away, for the reaſons given in ſect. 8.

Width of the Annular Area in the ſame ſtory, and Well over it, —— —	7*
—— of the Grated Annular Paſſage, encompaſſing the Annular Area on the ſunk ſtory, being the ſame width as that of the Cell-Galleries above, ——	4
Depth of a Cell within-ſide, — —	14†
Thickneſs of the Wall, — — —	5
Total,	60
Add the other ſemidiameter, ——	60
Total diameter	120

* In ſome of the impreſſions of the Draught, by miſtake 11 feet.

† In ſome of the impreſſions of the Draught, by miſtake 13 feet only. Of the four additional feet thus given to the Intermediate Well, one was at the expence of the Cells, the three others at the expence of the Chapel-Galleries. It is now, however, propoſed to allow it 1 foot, at the expence of thoſe Galleries, making at the diameter 8 feet inſtead of 7: excluſive of the 4, which, to the purpoſe of ventilation, may be conſidered as little different from ſo much void ſpace, being ſo imperfectly occupied by the Cell-Galleries, conſtructed of open work like balconies.

In

In the Floor of the Chapel.

Semidiameter of the Inſpector's Lodge, thickneſs of the wall included,	—	24
Width of the Inſpection-Gallery,	— —	8
		32
Add the other ſemidiameter,	———	32
Diameter of the building at the outer circumference of the Inſpector's Gallery in that ſtory,	—— —	64

Which is the ſame as in the other ſtories.

Cellular Part alone.

Heights.

From the floor of the ſunk ſtory to the floor of the loweſt Cell level with the ground, including the thickneſs of the floor,	—— — —	7—6
From the floor to the crown of the arch in each Cell,	— 8—0	
Thickneſs of the arch at the crown,	1—0	
Height of the firſt floor of Cells from the ground, including the thickneſs of the floor above,	—— 9—0	
——— of the ſecond floor,	18—0	

Height

Brought over —— ——		7—6
Heighth of the third floor,	27—0	
—— of the fourth floor,	36—0	
—— of the fifth floor,	45—0	
—— of the ſixth floor,		54—0
From the crown of the arch on the outſide to the loweſt part of the ſlanting roof within the walls,	3—0	
From thence to the level of that part of the roof where the Annular Sky-light begins,	5—0	
From thence to the level at which the Sky-light terminates, —	5—6	
Thickneſs of the roof in that part,	1—0	
	——	14—6
Total depth of the Annular Well	76—0	76—0
Height of the building from the ground in the Cellular part,	69—6	

Inſpection Tower alone.

Heights.

From the intermediate area to a level with the floor of the lowermoſt ſtory of cells,	7—6
Thence to the floor of the Inſpection Gallery	4—0
	11—6

Brought over —— ——	11—6
From the floor of the Inſpection Gallery, to the roof of ditto, including the thickneſs of the floor and roof, ——	8—0
Void ſpace between the lowermoſt and the middlemoſt Inſpection Galleries, —	10—3
Height of the middlemoſt Inſpection Gallery, including the thickneſs of the floor and roof, — — — —	7—6
Void ſpace between the middlemoſt Inſpection Gallery and the uppermoſt —	10—3
Height of the uppermoſt Inſpection Gallery, in front, including the thickneſs of the floor and roof, — —	7—6
Void ſpace between the uppermoſt Inſpection Gallery and the uppermoſt part of the Roof where the annular ſky-light terminates excluſive of the thickneſs of the roof, —— ——.	20—0
Thickneſs of the roof —— ——	1—0
Height from the floor of the ſunk ſtory and annular well as before, ——	76—0

Inſpector's

Inſpector's Lodge alone.

Widths.

From the center to the circumference of the of the central apertures in the floor and the cieling * —— —	6
Of the annular ſpace between that and the partition dividing the Lodge from the ſurrounding Gallery, being the ſpace underneath a Chapel-Gallery, added to that underneath the Chapel Area, —	21
Total ſemidiameter of the Inſpector's Lodge,	†27
Add the other ſemidiameter, ——	27
Total diameter, ——	54

* The diameter here given to theſe apertures is the ſame as that given to the opening Sky-light over them: but they admit of extenſion, as the demand for light or any other conſideration may require.

† In ſome of the impreſſions of the Draught but 21: the difference, 6 foot, being owing, half of it to the three foot of addition given by miſtake to the Annular Well at the expence of the included Inſpection Tower, the other half, to the addition (now propoſed to be taken back) given within that Tower to the Inſpection Gallery in this ſtory, at the expence of the included Lodge.

§ 3. *ANNULAR WELL.*

Annular Well, inſtead of Stories of Intermediate Annular Area.

HOW to give to the Inſpectors acceſs to the priſoners in their Cells? In the firſt deſign, ſtories of Intermediate Area, ſerving as paſſages, were allotted to this purpoſe: in number, agreeing with the Stories of Inſpection Lodge: in point of level, coinciding, as was neceſſary, with the loweſt ſtory of each pair of Cells. Apertures, cut here and there through the uppermoſt of theſe ſtories of paſſages, were to give light and air to thoſe below.

For what purpoſe theſe paſſages? For communication, and no other.—But the more I conſidered the more plainly I perceived, that, for uninterrupted communication there would be no uſe. The firſt ſuccedaneum that preſented itſelf was a multitude of *flying Staircaſes* of open iron-work: at laſt I ſatisfied myſelf, that two flights of Staircaſes, from top to bottom, for the priſoners, and ſhort paſſages,

joining

joining them from the ſeveral ſtories of the Inſpection-part, would anſwer every purpoſe*. Out went accordingly the Stories of Intermediate Area. Space took the place of matter, from the bottom of the building to the top: and thus a *Well* was formed all the way up, crowned by an uninterrupted *Skylight* as broad, and opening in as many places, as poſſible.

Airineſs, lightſomeneſs, economy, and increaſed ſecurity, are the evident reſults of this ſimple alteration: above all things, airineſs, the want of which it might not by any other means, have been very eaſy to remove. This vacuity does ſervice in a thouſand ſhapes: a ditch in fortification; it is a chimney and much more than a chimney in ventilation. In this point of view the diſtance between the particular ceiling and the general ſkylight is, ſo much added to the heighth of ceiling in each Cell: ſo that inſtead of 6 Cells, each 8 feet high and no more, we have, in fact, 6 Cells, one of 66 foot, another of 57, a third of 48, a fourth of 39, a fifth of 30, and the loweſt not leſs than 21 feet.

Communication, impeded in as far as it is dangerous, is, inſtead of being retarded, accelerated, where it is of uſe. To the Inſpector, in his Gallery, a ſingle *Pole* anſwers, as we ſhall, ſee the

* See below communications.

purpoſe of many ſtaircaſes: by this ſimple implement, without quitting his ſtation, he gives the priſoners egreſs from, and regreſs into, their Cells. Machines, materials of work, and proviſions, find a direct paſſage by help of a *Crane*, without the tedious circuity of a ſtaircaſe: whence leſs width of ſtaircaſe may ſuffice. The poſts, at which, were iron gratings of no avail, it would be poſſible for a deſperate priſoner to attack an Inſpector in his caſtle, are reduced to three narrow paſſages on each ſide: and thoſe too croſſed and guarded by doors of open-work, expoſing the enemy, while they keep him at a diſtance*. Of all this more particularly in its place. A ſhort hint of the ſeveral advantages could not well be omitted in ſpeaking of the part to which they are due.

Add to theſe another, nor that an inconſiderable one, in point of extent and facility of *Inſpection:* for though there are but two Stories of Cells, of which an eye ſituated in a Story of the Inſpecting Tower can reach every part alike, yet in addition to this perfect view partial views are thus opened, from which the management may derive, as we ſhall ſee, very material aſſiſtance.

† This refers to the conſtruction of the *Dead part* of the circuit, of which a little further on.

What

What degree of ſupport the Inſpector of each Story of Inſpection Gallery derives from the view thus acquired by his colleagues in the two other Stories, may be ſeen by the lines deſcribed for that purpoſe in the Cells. They are drawn as if from an eye ſtationed in the back part of the ſeveral Inſpection Galleries. The figures 1, 2, 3, mark the Stories of Inſpection Gallery from which they are reſpectively drawn. When two of theſe lines proceed from the ſame Cell, the letter s denotes that one of them which was drawn from the height of the eye of a middle ſized man when *ſitting* and ſtooping to read or write: ſay three feet ſix inches: the letter *u* that drawn from the eye of the ſame man ſtanding *upright*: ſay five feet five inches.

From this particularity in point of *conſtruction*, the following obſervations may be deduced with a view to *management*.

1. There is no Cell of which ſome part is not viſible from every ſtory in the Inſpection-Tower: and in the lowermoſt ſtory, not only from the Inſpection Gallery, but even from the included Inſpector's Lodge.

2. The part thus viſible is conſiderable enough in point of room to receive, and expoſe perfectly to view

view, a greater number of Priſoners than it can ever be propoſed to lodge in the ſame Cell.

3. No Priſoner can ever make any attempt upon the grating that forms the interior boundary of his Cell, without being viſible to every one of the three ſtations in the Inſpection-part.

4. During meal-times and at church-times, by ſtationing the Priſoners cloſe to the grating, two out of three Inſpectors may be ſpared.

5. The Cell-Galleries are, every one of them, perfectly commanded by every ſtation in the Inſpection-part.

6. An attempt can ſcarcely if at all be made on a window in the third ſtory of Cells, without being viſible, not only to its proper ſtory, (viz. the 2d) of the Inſpection-part, but likewiſe to the firſt, nor upon a window in the 4th ſtory of Cells, without being viſible, not only to its proper ſtory (viz. the 2d) of the Inſpection-part, but likewiſe to the 3d. Thoſe of the 4th ſtory at leaſt, as well as the two above it, are ſufficiently guarded by their height: upon the ſuppoſition that the Cells afford no ropes, nor materials of which ropes could be made in the compaſs of a night, by perſons expoſed conſtantly to the eye of a patrolling watchman.

7. To give to an Inſpector at any time the ſame command over the Cell of another Inſpector as over his own, there needs but an order, drawing a line of limitation in the Cells in queſtion, and confining the inhabitants within that line. So long as a priſoner keeps within it, he continues viſible: and the inſtant he ceaſes to be ſo, his very inviſibility is a mark to note him by.

§ 4. *PROTRACTED PARTITIONS OMITTED.*

Protracted Partitions omitted; or rather, taken into the Cells.

IN the original deſign the Protracted Partitions had two uſes: 1. To cut off all view of diſtant Cells: 2. To cut off converſe with the Cells contiguous on each ſide. In ſecuring this effect a large quantity of brick-work, and an annular ſpace of 3 or 4 foot all round were expended.

Upon maturer conſideration it appeared, that the ſame effect might be equally ſecured by ſlighter and cheaper means; and the ſpace thus ſacrificed allotted to ſome other more neceſſary purpoſe. Views of the oppoſite ſemicircle may be intercepted by ſheets of canvas filling up the intervals left by the ſtories of Inſpection-Gallery.* View and

* Making the circuit round the area of the Chapel, and omitting the Dead part, it will be found that three pieces, each in length about 70 feet, and in width, two about 5 feet each, and the third about 8½ feet will ſuffice.

converſe, as between Cells contiguous or adjacent, by barriers of the ſlighteſt nature interpoſed within the Cells: ſuch as a netting of wire for example, or even of pack-thread. The object is rather to mark the line than to oppoſe a phyſical obſtacle to the violation of it. If tranſgreſſion be rendered practicable without diſcovery, it is ſufficient: ſince it is not here and there an inſtance that can produce any material miſchief, or to the delinquent any gratification capable of paying for the danger. By this ſlight and flexible barrier no room need be conſumed. As well at top as at bottom it will give place to furniture: ſuch as a ſhelf, or the foot of a loom, a bedſtead, or a table: and upon order given, it may be removed at any time.

When the Protracted Partitions were contrived, it was with a view to the aſſumed neceſſity of abſolute ſolitude: that plan being, for reaſons given below, now relinquiſhed, neither this expedient, nor thoſe now propoſed to be ſubſtituted to it in the ſame intention, are any longer of the ſame importance.

If the interception of view can be conſidered as an object entitled to much attention, it can only be as between the different ſexes. Of the proviſion made for that purpoſe, a full account will be found below.

§ 5. *CELLS*

§ 5. CELLS,

DOUBLE INSTEAD OF SINGLE.

THE change is not a trifling one. It will not lightly be acceded to: the expediency of it will be expected to be fully and ſatisfactorily made out. It ſhall be ſo: by reaſon, by authority, and by practice. In the Letters I aſſumed ſolitude as a fundamental principle. I then copied, and I copied from recollection. I had no books. I have ſince read a little: I have thought more.

Not that the Panopticon ſyſtem has any intereſt in the change. You may apply it indeed to mitigated ſecluſion, but ſo you may with equal facility to abſolute ſolitude. Applied to the degree of mitigated ſecluſion here propoſed, it clears the puniſhment of its inconveniences, and gives it the advantages that have been looked for from ſolitude: applied to ſolitude, it enables you to ſcrew up the puniſhment to a degree of barbarous perfection, never yet given to it in any Engliſh priſon, and ſcarcely to be given to it by any other means.

Double Cells ſuppoſe two priſoners at leaſt in company; and admit of three, or even, in caſe of neceſſity, four: and that with much leſs inconvenience, as we ſhall ſee, in point of room, than would reſult from the putting of two into a Cell deſigned only for one. As to any greater number, I lay it out of the queſtion. The choice lies, it muſt be remembered, not betwixt ſolitude and crowded rooms, but betwixt abſolute, perpetual, and univerſal ſolitude, on the one hand, and mitigated ſecluſion in very ſmall aſſorted companies, on the other: companies in the formation of which every regard might be paid, and naturally would be paid, to every ſort of conſideration by which expediency can be influenced—to age, temper, character, talents, and capabilities. Single Cells throughout, that is a number of Cells equal to that of the priſoners for whoſe reception they are deſigned, Cells in which, under the Panopticon diſcipline, they are to work, and eat, and attend Divine ſervice, as well as ſleep, and out of which, unleſs for the purpoſe of being aired and exerciſed, they are never to ſtir, ſuppoſe them doomed, or at leaſt meant to be doomed, during the whole time of their impriſonment, to the ſtate of unmitigated ſolitude above mentioned: that time for the moſt part, a term of not leſs than ſeven years.

Of

Of perfect ſolitude in the penitentiary diſcipline I know but of one uſe: * the breaking the ſpirit as the phraſe is, and ſubduing the contumacy, of the intractable. In this quality it may be a neceſſary inſtrument: none at any rate can be more unexceptionable. None can be more certain in its

* Mr. Howard knew no other. "The intention of this" viz (*ſolitary confinement*) "The intention of this (ſays he in "Account of Lazarettos, p. 169) I mean by day as well as by "night, is either to reclaim the moſt atrocious and daring crimi-"nals; to puniſh the refractory for crimes committed in priſon; "or to make a ſtrong impreſſion in a ſhort time, upon thought-"leſs and irregular young perſons, as faulty apprentices and the "like. It ſhould therefore be conſidered by thoſe who are ready "to commit for a long term petty offenders to abſolute ſolitude, "that ſuch a ſtate is more than human nature can bear without "the hazard of diſtraction or deſpair: The beneficial effects of "ſuch a puniſhment are ſpeedy proceeding from the horror of "a vicious perſon left intirely to his own reflections. This may "wear off by long continuance, and a ſullen inſenſibility may "ſucceed."

And in another note, p. 192, "A ſhort term would probably "do more to effect a reformation than three or four months "confinement; as it is generally found that in the firſt two or "three days priſoners ſeem to have their minds moſt affected and "penitent."

Of theſe notes the former, it is true, is prefaced with a "wiſh "that all priſoners had ſeparate rooms, for hours of thought-"fulneſs and reflection" (ſays he) "are neceſſary." But by ſeparate rooms all that he had in view was rooms different from

effect.* In what instance was it ever known to fail?

But in this quality the demand for it can be but temporary. What it does, if it does any thing, it does quickly: better, according to Mr Howard, in two or three days, than in more. [Account of Lazarettos, p. 192.] Why then at an immense expense set up a perpetual establishment for the sake of so transitory an use?

In the character of a permanent article of discipline, continued throughout the whole of the confinement, if it were thought necessary on any account, it must be for one or other of two purposes: 1. To prevent the spread of mischievous instruction,

the crowded rooms he had been speaking of in the text. In the latter it is true the sort of thoughfulness and reflection he speaks of will with difficulty find place. The busy scenes that pass in crowds keep the mind in a state of fermentation and confusion that leaves little leisure for the admission of other thoughts. Far otherwise is it in those small societies, societies composed of two or three only, which not having fallen under his observation do not appear on this occasion to have been in his view. Unapt to give rise to obstreperous mirth, they are peculiarly favourable, produce that sort of calm reflection which is the concomitant of confidential intercourse.

* Darkness and fasting, one or both, must be added where it is thought necessary the effect should be speedily produced: as in the case of English Juries.

or

or 2. To prevent conſpiracies for the purpoſe of eſcape.

It is not neceſſary for either purpoſe. I mean always in contradiſtinction to the mitigated plan of ſecluſion, which gives to each man but one or at moſt two companions. 1. Not for the former—In the caſes in which miſchievous inclinations have been apprehended, and in which a plan of ſolitude, more or leſs ſteadily adhered to, has been employed or thought of by way of remedy, the following circumſtances have generally concurred. 1. The *multitude* of the priſoners collected together *large* and indeterminate: the *compoſition* of that multitude *not* capable of being regulated by any power of *ſelection*: the whole multitude left together, during the whole, or almoſt the whole of the four and twenty hours, *without inſpection* or controul: and that in a narrow ſpace, where, no one however deſirous, could eſcape from the converſation of any other. 4. All of them at liberty, without any other check than that of poverty, to ſupply themſelves to any exceſs with the means of intoxication. 5. A part more or leſs conſiderable of that number about to be *turned looſe again* upon the public in a *ſhort* time, with the leſſons of miſchief freſh in their ears, and ready at the

the firſt opportunity to apply the theory to practice. Under the arrangement to which, upon maturer conſideration, I have given the preference in compariſon with the firſt haſty conception of perpetual ſolitude, not one of the above circumſtances has place: The number of the priſoners propoſed to be put together is very ſmall: in general but two, at the utmoſt not more than four: the compoſition of theſe little groupes dependent upon the ruling powers in the firſt inſtance, and capable of being varied every moment upon any the ſlighteſt intimation which experience or even ſuſpicion can afford: every groupe, and every individual in it, expoſed more or leſs to the ſcrutiny of an inſpecting eye during every moment of their continuance there: all means of intoxication for ever out of reach: the degree of ſecluſion determined upon, capable whatever it be of being, thanks to the all-efficient power of the Panopticon principle maintained inviolate, while every plan of ſolitude yet attempted has been broken in upon, and its purpoſe in great meaſure fruſtrated by occaſional aſſociations, and the pernicious inſtruction, ſhould any ſuch be communicared, not capable, were it to find a learner ever ſo ripe for it, of being applied to practice for many years to come.

If

If from reaſon we turn to example, an inſtance where the plan of perpetual, total, and univerſal, ſolitude has been adopted, and ſteadily adhered to, will not any where I believe be found. Either it has not been aimed at: or, if aimed at in principle, it has been relented from in practice.

In the Wymondham Penitentiary-Houſe, each priſoner, it is true, has a ſeparate Cell to ſleep in: it is however only upon occaſion * that he works there. If he does not work there, he muſt work, and unqueſtionably does work, in company: viz. in the work-room of twenty feet four inches by ten feet :† which was not deſtined for a few. As a preſervative againſt miſchievous inſtruction, what then at thoſe times, that is, throughout the day, becomes of ſolitude?

In the Glouceſter Penitentiary-Houſe, as well as in the other Glouceſter priſons, ſolitude, under the two modifications there adopted, viz. with and without the concomitant of darkneſs, is with great propriety, and in conformity to the principle I am contending for, "directed merely as a puniſh-

* *When neceſſary.* See Sir T. Beevor's Letters in Annual Regiſter for 1786, Let. I.

† Ibid. Let. III.

"ment

" ment for refractory priſoners, and to enforce the " diſcipline of the priſon."

In the Penitentiary-Houſe indeed it is provided that, during the hours of reſt, the priſoners ſhall be " *kept entirely ſeparate :—in ſeparate Cells.*" So much for the night. How is it all day long?—" *During the hours of labour*," they are to be " *kept ſeparate*"—how?—abſolutely? No: but only " *as* " *far as the nature of the employment will admitt.*"

What follows immediately after I do not perfectly comprehend. " When the nature of the " employment may require *two* perſons to work " together," (it does not ſay *two perſons or more*) " the taſk-maſters, or aſſiſtant, (it is ſaid) ſhall be " preſent to attend to the behaviour of ſuch offen- " ders, who ſhall not continue together, except " during ſuch hours of labour." How is this? not more than two perſons ever to work together? nor even two without a taſk-maſter, or his aſſiſtant, to attend them? Upon any idea of economy can this be looked upon as practicable? One man at 50l. or 30l. or 25l. a year,* to do nothing but look on, for every two men, who are expected to work?

§ The ſalaries allowed by th ſe regulations to a taſk maſter, turnkey, and aſſitant turnkey. Ib. Part I. p. 18.

The

The Governor, is allowed, I obſerve, for but one ſubordinate of each of thoſe deſcriptions. Are there then to be but three pair of priſoners on the whole eſtabliſhment, to whom the indulgence of ſo much as a ſingle companion is to be allowed?—Are all the reſt to remain in ſolitude for the want of an attendant to each pair?——This cannot be. By *two* then, we are to underſtand *two or more*: in ſhort here, as at Wymondham, there are working-rooms in common, which none are to be without an Inſpector, ſtationed in ſome part of the room.——But in this caſe too, what becomes of ſolitude?

If the benefits expected from ſolitude in the character of a preſervative, were not given up by this relaxation, they would be by another. The following I obſerve preſcribed, as one of the four degrees of puniſhment, "to be applied in the diſcipline of *all* the priſons," the Penitentiary priſon therefore among the reſt. The priſoner though "on working-days, con-"fined to his cell, except during the times of air-"ing,"* and tho' "removed *ſingly* to the chapel," is,

* As to *airing*, a plan for that purpoſe will be found below, which does not require the ſlighteſt infringement upon whatever plan of ſeclusion may be fixed upon as moſt eligible.

provided

"provided his, or her behaviour, be orderly or "decent," to be "allowed on Sundays, to air in the courts, in the ſociety of his or her claſs."* Under this indulgence too, what becomes of the *antiſeptic* regimen? May not the ſame perſon who opens a ſchool of corruption as ſoon as the keeper's back is turned, be orderly and decent during his preſence? May not there be *eye-priſoners*, as well as eye-ſervants? Cannot the arts of houſebreaking and pilfering be taught on Sundays, as well as on week-days: cannot they be taught quietly and in a low voice?

So much as to evil inſtruction. Now as to ſafe cuſtody. Upon the Panopticon plan at leaſt, abſolute ſolitude is equally unneceſſary to this purpoſe. Towards effecting an eſcape, what can two or three do more than one, confined as they are by iron grates while they are within the priſon, and by walls when they are without? and in either caſe, never out of the eye of an Inſpector, who is armed and out of reach of attack, and within reach of whatever aſſiſtance he can deſir? And this too, as we ſhall ſee, but a part of the ſecurities with which the ſyſtem is armed: for every thing cannot be ſaid at once, nor repeated at each ſentence.

Upon

* Ibid. Part II. p. 10.

Upon the common plans, abſolute ſolitude while the priſoners were out of ſight might, for aught I can ſay, be a neceſſary precaution: at leaſt it cannot be ſaid to be an uſeleſs one. In the courſe of ſixteen hours a good deal might be done by two or three perſons, ſteeled againſt danger, reckoning life as nothing, and ſecure of not being obſerved.

If perpetual and unremitted ſolitude is not neceſſary either to prevent the ſpread of miſchievous inſtruction or to prevent eſcapes, to what other purpoſe can it be either neceſſary, or of uſe?—To reformation?—But that you have already, either without any ſolitude, or by the help of a ſhort courſe of it. What further proof would you wiſh for, what further proof can human eyes have, of ſuch a change, beyond quietneſs, ſilence and obedience?

To the purpoſe of example? The effect in the way of example, the effect of the ſpectacle, receives little addition from the protracted duration of the term.

Are you afraid the ſituation ſhould not be made uncomfortable enough to render it ineligible? There are ways enough in the world of making men miſerable without this expenſive one: nor if their ſituation in ſuch a place were made the beſt

of

of, is there any great danger of their finding themſelves too much at their eaſe. If you muſt torment them, do it in a way in which ſomebody may be a gainer by it. Sooner than rob them of all ſociety, I would pinch them at their meals.

But ſolitude when it ceaſes to be neceſſary becomes worſe than uſeleſs. Mr. Howard has ſhewn how. It is productive of gloomy deſpondency, or ſullen inſenſibility. What better can be the reſult, when a vacant mind, is left for months, or years, to prey upon itſelf?

This is not all. Making this laviſh uſe of ſolitude is expending an uſeful inſtrument of diſcipline in waſte. Not that of *puniſhments*, or even a proper variety of puniſhments, there can ever be a dearth: I mean of what is uſually in view under that name—ſuffering employed in a quantity predetermined, after an offence long paſt. But of inſtruments of *compulſion*, ſuch as will bear ſcrutiny, there is no ſuch great abundance.

Starving thus employed, is open to ſuſpicion, and may not always be practicable, without prejudice to health. Acute applications, ſuch as *whipping* or *beating*, are open to abuſe and ſtill more to ſuſpicion of abuſe. Applied in this way they would be execrated under the name of *torture*.

Solitude

Solitude thus applied, eſpecially, if accompanied with darkneſs and low diet, is torture in effect, without being obnoxious to the name.

Compared to that mitigated degree of ſecluſion which admits of allowing two or three to a Cell, it is unthrifty in a more literal ſenſe. Pecuniary economy muſt be ſacrificed to it in a thouſand ſhapes. 1. It enhances the expence of building. 2. It conſumes room: 3. It cramps the choice of trades: 4. It cramps induſtry in any trade.

1. It enhances the expence of building. Admit of Double Cells inſtead of Single, and obſerve the ſaving. Half the number of the Partition-Walls: a conſiderable part of the expence of warming: half that of lighting: half the apparatus, whatever it be, dedicated to cleanlineſs: and the expence of water cloſets, upon the moſt perfect plan, need the leſs be grudged.

2. It conſumes room. 1. Admit of Double Cells, you gain to the purpoſe of ſtowage and manufacture, the ſpace occupied by the Partition-walls you have thrown out. 2. It precludes the ſaving that may be made in Double Cells, by putting together two ſorts of workmen one of whom required more room than the average allowance, the other leſs: a weaver for example, and a ſhoemaker.

3. It cramps the choice of employments. 1. It excludes all ſuch as require more room, than you would think fit to allow to your Single Cell. 2. It excludes all ſuch as require two or more to work in the ſame apartment. *

4. It cramps induſtry in any employment. 1. It precludes an experienced workman from having boys given to him for apprentices. 2. Nor probably would the ſame quantity of work be done by two perſons in a ſtate of ſolitude, as would be done by the ſame two perſons in a ſtate of ſociety, at leaſt under the influence of the inſpection principle. Who does not know the influence that the ſtate of the ſpirits has upon the quantity of the work?†

* I do not pretend to ſay that even in Single Cells employments would be to ſeek: or that there is any reaſon to ſtrain a point for the ſake of admitting employments that require an extraordinary meaſure of room, as if the profitableneſs of employments were in uniform proportion to the quantity of room they required. I would not therefore be at a great expence in building for the vague chance of giving admittance to trades, which by their difference in point of profitableneſs might do more than pay for the difference in point of expence in building. What I ſaid in the Letters I ſay ſtill. All I mean here is, that if a latitude in that article can be obtained without any additional expence, the advantage ought not to be forgotten.

† True it is, that two boys or two idle men, if put together without motives for working, would be apt enough to play or lounge

Sequeſtered ſociety is favourable to friendſhip, the ſiſter of the virtues. Should the comrades agree, a firm and innocent attachment will be the natural fruit of ſo intimate a ſociety, and ſo long an union.

Each Cell is an iſland: the inhabitants, ſhipwrecked mariners caſt aſhore upon it by the adverſe blaſts of fortune: partners in affliction, indebted to each other for whatever ſhare they are permitted to enjoy of ſociety, the greateſt of all comforts.

Should diſagreement intervene, how eaſy will ſeparation be, and what ſhould hinder it? ſhould the

lounge the whole time, and not work at all. True it is alſo, that after having had experience for a certain time of abſolute ſolitude debarred from all means of employment, the moſt arrant idler that ever lived would be apt to fly to almoſt any employment as a relief. But the queſtion here is, not between a recluſe without the means either of work or play, and two idlers poſſeſſing the means of play without the motives to work, but between one perſon in ſolitude, and two others in ſociety, neither the one nor the two having the means of play, but with regard to work, all having as well the motives as the means.

What more proverbial than the briſkneſs of the Cobler's work, and the cheerfulneſs of his note? But where would be his cheerfulneſs without the amuſive ſpectacle of the ſort of ſociety afforded him by the flux and reflux of the paſſing throng?

miſchief be the reſult of ill nature or turbulence of one alone, the remedy is at hand—conſign him to ſolitude till tamed. Take from him the bleſſing, till he has learnt to know its value: puniſh him in the faculty he has abuſed.

A fund of ſociety will thus be laid up for them againſt the happy period which is to reſtore them to the world. A difficulty will thus be obviated which has been remarked as one of the moſt unfortunate concomitants of this mode of puniſhment, and as having but too powerful a tendency to replunge them into the ſame abandoned courſes of life which brought them to it before. Quitting the ſchool of adverſity, they will be to each other as old ſchool-fellows, who had been through the ſchool together, always in the ſame claſs.

Let us keep clear of miſtakes on all ſides. There are four diſtinctions we ſhould be careful to obſerve in regard to ſolitude. One is, between the utility of it in the character of a temporary inſtrument applicable to a temporary purpoſe, and the neceſſity of it, in the character of a permanent ingredient in the ſyſtem of diſcipline. Another is, between the peculiar effects of ſolitude and the advantages which are equally obtainable by means of ſequeſtered ſociety, in ſmall aſſorted com-

companies. A third is, between the effects of ſuch aſſociations, under the common plan and under the all preſervative influence of the inſpection principle.

A fourth is, between the duration the ſolitary diſcipline is capable of requiring in a Penitentiary Houſe, and that which it may poſſibly be of uſe to give to it in a Houſe of Correction. It may be longer in the latter.* Why? Becauſe in a Penitentiary Houſe all it can be wanted for is to produce immediate ſubmiſſion: for, as to reformation and change of character, years are remaining for that taſk: the offender is not returned from thence into unlimited ſociety. In a Houſe of Correction, the term being ſo much ſhorter, the remedy muſt be ſo much the more powerful. If the reformation of the offender is not compleated in his ſolitary Cell, there is no other place for it to be continued

* Though even there not a long one. Hear Mr. Howard, in a note before referred to. "In all manufacturing towns" (ſays he, p. 192) "it would be proper to have ſolitary Cells for the "confinement of faulty apprentices and ſervants for *a few days*, "where they ſhould be conſtrained to work, and have no viſitors, "unleſs Clergymen: for a ſhort term would probably do more to "effect a reformation, than three or four months confinement; "as it is generally found that in the firſt two or three days pri-"ſoners ſeem to have their minds moſt affected and penitent."

in: for from thence he is returned to ſociety at large.*

One thing is good for phyſic, another thing for food. Would you keep a man upon bark or antimony?

Rejecting then the idea of abſolute ſolitude, I lay two of the Cells propoſed in the original draught into one. Two accordingly is the number I conſider as forming the *ordinary complement* of the Double Cell thus formed: *three*, if three are any where to be admitted, I ſtile a *ſuper-complement*: *four*, a *double complement*.

The degree of extenſibility thus given to the eſtabliſhment ſeems a very conſiderable advantage: the number is not rigorouſly confined to the meaſure originally allotted to it: proviſion is made for the fluctuation and uncertainty naturally incident to the number of inhabitants in ſuch a houſe. Tho' two ſhould be deemed the propereſt complement for a

* I ſpeak with a view to the common plans. In a Panopticon Houſe of Correction, beginning, where neceſſary, with a very ſhort courſe of ſolitude, I would allot the reſt of the term to a ſtate of mitigated ſecluſion. But in many caſes where a long term is preſcribed without diſtinction or thought about the diſcipline that will be purſued, the ſhort courſe of ſolitude would be ſufficient of itſelf.

general

general one, even ſo conſiderable an one as four, eſpecially if not univerſal does not ſeem to threaten any formidable inconvenience. As to ſafe cuſtody and good order, four is not ſuch a number as can well be deemed unmanageable: if it were, how would ſo many more be managed all day long in the work-ſhops, and that without the benefit of inviſible inſpection, as on the common plans? As to room, four would have much more of it in one of theſe Double Cells, than two would have in a Single Cell formed by the diviſion of ſuch a Double Cell into equal parts. A partition in certain caſes excludes from uſe a much greater ſpace than that which it covers.*

Under this arrangement, ſolitude in its character of a temporary inſtrument is by no means laid aſide. On the contrary it is made applicable, to a greater, indeed to an almoſt unlimited extent, and what is more, without any additional expence. Two I call, as before, the *ordinary complement* for theſe Double Cells. Conceive the whole number of the Cells provided with their ordinary comple-

* Thus in a room of twelve foot wide you might join lengthways three tables of four foot in length each: divide the room into two equal rooms by a partition, you can place but two ſuch tables in the ſame direction, though the partition be but a lath.

ment: to conſign a delinquent to ſolitude, there needs no more than to deprive him of his companion, and by transferring the companion to another Cell, give that one other Cell a *ſuper-complement*. In this way by only giving to half the number of Cells a ſuper-complement, half the number of priſoners might be conſigned to ſolitude at once: a multitude of ſolitaries beyond compariſon greater than what is provided for in any priſon in which ſolitude is not meant to be the conſtant ſtate of the whole. Even ſuppoſing the Cells univerſally provided with a ſuper-complement, give two thirds of them a double-complement, and you may ſtill conſign to ſolitude one third of their inhabitants at the ſame time: and ſo, in caſe of an univerſal double complement one quarter, upon no worſe terms than the putting five perſons into a ſpace, which in the ordinary way of providing for the inferior claſſes, is often made to hold a greater number without any very decided inconvenience.

In eſtimating the effects of putting two or three or four priſoners together (all under inſpection, it muſt be remembered, all the while) the advantage of grouping them at the diſcretion of the Inſpector muſt not be overlooked. Very inattentive indeed muſt he have been to this capital part of his buſineſs, if in a very ſhort time the character of every

individual among them be not known to him as much as is material to his purpoſe. He will of courſe ſort them in ſuch a manner as that they may be checks upon one another, not aſſiſtants, with regard to any forbidden enterpriſe.

Let us not be impoſed upon by ſounds: Let not the frightful name of *felon* bereave us of the faculty of diſcrimination. Even antecedently to the time within which the reformatory powers of the inſtitution can be expected to have had their effect, there will be perhaps no very conſiderable part of the whole number, whoſe characters need inſpire much more apprehenſion than would be juſtified by an equal number of men taken at large. It is a too common though natural error to affix to this odious name, whatſoever difference of character may accompany it, one indiſtinguiſhing idea of profligacy and violence. But the number of the perſons guilty of crimes of violence, ſuch as robbery, the only ſorts of crimes which in ſuch an eſtabliſhment can be productive of any ſerious miſchief, bear comparatively ſpeaking but a ſmall proportion to the whole. Thoſe whoſe offences conſiſt in acts of timid iniquity, ſuch as thieves and ſharpers, even though trained to the practice as to a profeſſion, are formidable, not to the peace of the eſtabliſh-

eſtabliſhment, but only in the capacity of inſtructors to the reſt: while the qualities of perhaps the major part, whoſe criminality is confined to the having yielded for once to the momentary impulſe of ſome tranſient temptation, are ſuch as afford little or no danger in any ſhape, more than would be afforded by any equal number of perſons in the ſame ſtate of poverty and coercion taken at large. They are like thoſe on whom the Tower of Siloam fell, diſtinguiſhed from many of their neighbours more by ſuffering than by guilt. Drunkenneſs, it is to be remembered, the moſt inexhauſtible and moſt contagious ſource of all corruptions, is here altogether out of the queſtion. Intoxication cannot be taught, where there is nothing (for this I take for granted) wherewith a man can be intoxicated.*

* In ſhewing that abſolute ſolitude is not an eſſential part, nor indeed any part of the Penitentiary Syſtem, I had forgot the original Penitentiary Act, 19 Geo. III. c. 74: under which act, ſolitude extends neither to "labour," nor "devotion," nor "meals," nor airings." See § 33.

§ 6. *DEAD PART.*

IT will be neceſſary on a variety of accounts to reſerve ſome part of the circuit of the building for other purpoſes than that of being diſpoſed of into Cells. A Chapel, a part of the eſtabliſhment for which a place muſt be found ſomewhere, occupies upon the preſent plan a conſiderable portion of the Inſpection-Tower. Even the whole of that circle, were there to be no Chapel, would not ſuffice for the lodgment of all the perſons for whom lodgment would be neceſſary. There muſt be a Chaplain, a Surgeon, and a Matron: eſpecially if beſides male there ſhould be female priſoners, which in a building of this kind there may be, as we ſhall ſee, without inconvenience.* Should the eſtabliſhment not be of ſufficient magnitude to call upon the Chaplain and the Surgeon for the whole of their time, and to give a compleat lodgment to thoſe officers and their families, ſome ſort of ſeparate

* See the Section on the Separation of the Sexes.

apartment

apartment they muſt ſtill have, the Surgeon at leaſt, to occupy while they are there.

To ſuch an eſtabliſhment not only a Governor, but a Sub-Governor will probably be requiſite: and for the ſake of giving an inſpecting eye to the approach without, as well as for other purpoſes, it will be neceſſary, as we ſhall ſee, that the former, and convenient, that the latter at leaſt, ſhould have an apartment fronting and looking out that way. And for the lodgment of the Governor at leaſt, there will be required a ſpace ſufficient for a ſtile of living equal or approaching to that of a gentleman.*

* To a perſon of this deſcription, or not much below it, muſt the proviſion made in point of room be ſuited, upon whatever plan the Governor is to find an inducement to take upon him the office. Upon the plan of payment by ſalary, a man who in point of education and reſponſibility had not ſome pretenſions to be conſidered as upon that footing, would hardly be intruſted with a concern of ſuch magnitude and importance. Upon the contract plan recommended in the Letters (See Letter 9th) a man who were not of ſufficient reſponſibility and account to require proviſion to be made for him in the way of lodgment upon a ſimilar footing, would hardly be accepted of. In the former caſe, the Governor would require a Maſter-manufacturer, or Taſk-maſter under him, to eaſe him of the moſt irkſome and laborious part of the details, and occaſionally of the whole, in caſe of ſickneſs or neceſſary abſence. And in the latter caſe, were a Maſter-manufacturer to be the contractor, while his own attention was principally

There muſt therefore be ſome part of the building, over and above the central, provided for the lodgment of theſe ſeveral ſorts of Curators, and conſequently not, like the reſt, diſpoſed of in the form of Cells. The part of the circuit thus ſacrificed and blocked up, as we ſhall ſee, by a projecting-front, is what I call the *Dead-part*.*

To take from the Cells the whole of the ſpace thus meant to be employed would abſorb a greater part of the circuit than would be neceſſary, and thus make an uneconomical diminution in the number of priſoners capable of being provided for. To obviate this inconvenience, in a building of 120 foot diameter, which were the whole of it diſpoſed into Cells would, by having 24 Double Cells in a ſtory, and ſix ſuch ſtories, contain 288 priſoners, I take, for ſuppoſition ſake, for the Dead part, a ſpace no more than equal to five ſuch Cells.

cipally employed in turning the eſtabliſhment to account in the way of profit, he would find it neceſſary to have under him a man of truſt, in the character of Keeper, for the purpoſe of ſuperintending the government of the priſon; and paying a more particular attention than the occupations of the principal could admit of his paying to the great objects of ſafe-cuſtody and good order.

* A wall, in contradiſtinction to erections with windows in them, is commonly called a *Dead Wall*.

To obtain what further room may be requiſite, and that without any further prejudice to the number of the Cells, I add a quadrangular front, projecting, ſay for inſtance twenty foot, reckoning from a tangent to the circle. This, with the help of the ſpace included by a perpendicular drawn from ſuch tangent to the laſt of the Cells thus ſacrificed on each ſide, would form a conſiderable projection, extending in front about 73 foot.* By this means the officers in queſtion might all of them poſſeſs ſome ſort of communication with the exterior approach, while the back part of the ſpace has appropriated would give them communication with and inſpection into the part allotted to the priſoners, and to ſuch of them as required to be ſtationed in the heart of the building, acceſs to their common lodgment in that place.

The front thus formed would not however require to be carried up to the utmoſt height of a building ſo lofty as the circular part, viz. upon

* This part could not be delineated in the Draught Plate II. nor conſequently the Dead Part diſtinguiſhed from the reſt. The diſpoſition of theſe two parts muſt be governed in a conſiderable degree by local circumſtances, and in its details is not eſſential to the compoſition of the building. The outline of it is however repreſented in Plate III.

the preſent plan about 68 foot, roof included. Priſoners, as their occaſion to aſcend and deſcend recurs, as we ſhall ſee, at very few and ſtated periods, may be lodged at almoſt any height without ſenſible inconvenience*: but this is not equally the caſe

* This would be, excluſive of the roof, 54 foot, being the aggregate height of the ſix Cells; the floor of the loweſt ſtory of Cells being ſuppoſed level with the ground: that is, even with the ground floor of the Projecting Front upon the ſame level. But it will probably be found convenient, as we ſhall ſee, to raiſe the ground floor of the Front to a level with that of the lowermoſt ſtory of the Inſpection-part, the floor of which muſt be $4\frac{1}{2}$ above that of the lowermoſt ſtory of Cells; and to put under the Cells a ſunk floor, running all round, which may be about $7\frac{1}{2}$ foot lower than that of the Cells, and conſequently about 12 lower than that of the lowermoſt ſtory of the Inſpection-part. In that caſe, if the ground is at the ſame height before the Front as all round the Cells, there muſt be ſteps from it to the height of $4\frac{1}{2}$ foot (ſay 9 ſteps 6 inches each) to reach the ground floor: which will reduce to $49\frac{1}{2}$ foot the height from the ground floor of the cieling of the higheſt ſtory of Cells; and to $43\frac{1}{2}$ that from the ſame ground-floor to the windows of the ſame ſtory of Cells: at which level the projection muſt terminate, in order to afford by its roof a terrace for the Infirmary, in manner here propoſed.

This want of coincidence between the floors of the internal part and thoſe of the external, in other words, between the Inſpection-part and the Cellular, (a circumſtance neceſſary to give each floor of the former the command of two floors of the latter) introduces a degree of intricacy which affects every conception that can be formed and every account that can be given of almoſt any part of this unexampled ſtructure.

with members of families in a ſtate of liberty. The cielings, though higher than thoſe of the Cells, (which are 8 foot in the clear) would not require to be ſo lofty as the diſtance from floor to floor in the Inſpection-part: a number of ſtories, though not ſo great as ſix, yet greater than three, might therefore be thus allotted. To diſpoſe of the ſurplus to advantage, I omit a height at top equal to and level with that of the uppermoſt ſtory of Cells. The correſponding part of the circuit of Cells, comprehending a ſpace equal to that of five of theſe Double Cells, is thus reſtored to the light, and free to be converted into Cells.* This part, or any of the Cells compoſing it, may anſwer upon occaſion the purpoſe of *an Infirmary*.

It poſſeſſes in this view a peculiar advantage. The front may have a flat roof, which being raiſed to the level of the floor or the bottom of the windows of this Infirmary part, and covered with lead or copper, will form a terras, on which convaleſcents, though incapable of the fatigue of deſcending and reaſcending, may take the air. A ſpace of 73 foot in front, and in width where narroweſt (viz. at its junction with the circle) 20 foot, and where

* It may poſſibly however be found eligible to ſacrifice one of theſe Cells, viz. the center one, to let in light by a ſky-light for the ſtaircaſe for Chapel viſitors. See § *Communications—Staircaſes.*

wideſt (viz. at the furtheſt part from the circle) near 32 foot, would afford very convenient room for this purpoſe, and the ſeparation between the males and females might here likewiſe, if thought neceſſary, be kept up, by a partition wall cutting the terrace in the middle.

A more convenient Infirmary could ſcarce be wiſhed for. The only expence attending it is the difference between that of a flat and that of an ordinary roof for the quadrangular projection over which it looks: and even this difference is not an eſſential one. On the ordinary plans, while there are no ſick, the Infirmary is vacant and uſeleſs. Such need not be the caſe here. Guarded and watched in the ſame manner, the Infirmary Cells are as fit for the reception of priſoners in health as any other Cells. When the eſtabliſhment is in this ſtate of repletion, ſuppoſe an Infirmary Cell wanted for a ſick perſon, it is but diſmiſſing its former inhabitant or inhabitants to an ordinary Cell or Cells upon the principle already mentioned.

The part thus denominated the Dead part would be very far from loſt. It would afford room for many neceſſary articles in the compoſition of the building. Out of it ought to be taken:

1. Staircaſes for the Priſoners and Inſpectors: for which ſee the head of Communications.

2. Entrance and Staircaſes for the Chapel Viſitors: for which alſo ſee the head of Communications.

3. Paſſage and Staircaſe to the Inſpector's Lodge: for which ſee the ſame title.

4. Veſtry for the Chaplain.

5. Organ and Organ loft.

6. Clock-houſe and Belfry.

§ 7. *CHAPEL.*

Chapel Introduced.*

THE neceſſity of a Chapel to a Penitentiary Houſe is a point rather to be aſſumed than argued. Under an eſtabliſhed Church of any perſuaſion, a ſyſtem of penitence without the means of regular devotion would be a downright ſoleciſm. If religious inſtruction and exerciſe be not neceſſary to the worſt and generally the moſt ignorant of ſinners, to whom elſe can they be other than ſuperfluous?

This inſtruction, where then ſhall they be placed to receive it? No where better than where they are. There they are in a ſtate of continued ſafe-cuſtody: and there they are without any additional expence. It remains only to place the Chaplain: and where

* The Chapel, not being a characteriſtic part of the deſign, will be ſufficiently underſtood from the Draught, without any particular explanation. For the whole detail of this part, I am indebted to my profeſſional adviſer, Mr. Revely, of Great Titchfield ſtreet, Marybone, whoſe beautiful and correct drawings of Views in the Levant have been ſo much admired by the dilettante in Grecian and Egyptian antiquities.

the Chaplain is, there is the Chapel. A ſpeaker cannot be diſtinctly heard more than a very few feet behind the ſpot he ſpeaks from.* The congregation being placed in a circle, the ſituation therefore of the Chaplain ſhould be, not in the center of that circle, but as near as may be to that part which is behind him, and conſequently at the greateſt diſtance from that part of it to which he turns his face.

But between the center of the Inſpection Tower all round and the intermediate Well, there muſt be at any rate, whatever uſe it may be put to, a very conſiderable ſpace. What then ſhall be done with it? It cannot be employed as a warehouſe conſiſtently with the ſanctity of its deſtination: nor even independently of that conſideration: ſince if thus filled up it would intercept both ſight and voice. Even if Divine ſervice were out of the queſtion, it is only towards the center that this part could be employed for ſtowage, without obſtructing inſpection as much as in the other caſe it would devotion: nor can it even in that part be ſo employed, without narrowing in proportion the In-

* I found this by experiments made on purpoſe in churches. See alſo Saunders on Theatres.

ſpector's range; and protruding his walk to a longer and longer circuit. What then, ſhall we do with this vacuity?—Fill it with company, if company can be induced to come. Why not, as well as to the Aſylum, the Magdalen and the Lock Hoſpital, in London? The ſcene would be more pictureſque: the occaſion not leſs intereſting and affecting. The proſpect of contributions that might be collected here as there, will bind the manager to the obſervance of every rule that can contribute to keep the eſtabliſhment in a ſtate of exemplary neatneſs and cleanlineſs, while the profit of them will pay him for the expence and trouble. Building, furniture apparel, perſons, every thing muſt be kept as nice as a Dutch Houſe. The ſmalleſt degree of ill ſcent would be fatal to this part of his enterpriſe. To give it ſucceſs, prejudices indeed would be to be ſurmounted: but by experience, continued and uninterrupted experience, even prejudice may be overcome.

The affluence of viſitors, while it ſecured cleanlineſs, and its concomitants healthineſs and good order, would keep up a ſyſtem of gratuitous inſpection, capable of itſelf of awing the keeper into good conduct, even if he were not paid for it: and the oppoſite impulſes of hope and fear would

thus contribute to enſure perfection to the management, and keep the conduct of the manager wound up to the higheſt pitch of duty. Add to this the benefit of the example, and of the comments that would be made on it by learned and religious lips: Theſe ſeeds of virtue inſtead of being buried in obſcurity, as in other improved priſons, would thus be diſſeminated far and wide.

Whatever profit, if any, the contractor could make out of this part of the plan, why grudge it him? Why to his eſtabliſhment more than to any of thoſe juſt mentioned? Not a penny of it but would be a bounty upon good management and a ſecurity againſt abuſe.

If the furniture and decoration of the Chapel would require ſome expence, though very little decoration would be requiſite, a ſaving on the other hand reſults from the degree of openneſs which ſuch a deſtination ſuggeſted and rendered neceſſary. On the original plan, the whole circuit of the central part, then appropriated ſolely to inſpection, was to have been filled with glaſs: on the preſent plan, which lays this part open in different places to the amount of at leaſt half its height, that expenſive material is proportionably ſaved.

On

On the preſent plan, it will be obſerved, that three ſtories of Cells only, viz. the ſecond, third, and fifth from the top, enjoy an uninterrupted view of the Miniſter.* That the inhabitants of the other ſtories of Cells may have participation of the ſame benefit, it will be neceſſary they ſhould be introduced, for the occaſion, into or in front of ſuch of the Cells as are in a ſituation to enjoy it. This might be effected, and that with the greateſt care, were the whole eſtabliſhment to receive even a *double complement.*

The two parties compoſed of the fixed inhabitants of each Cell, on the one hand, and the ſtrangers imported from a diſtant Cell on the other, might be ſtationed either in one continued row in the front of the Cell-galleries, or the one party in that line and the other immediately within the Cell-grating. In neither caſe need the law of ſecluſion be ſuffered to be infringed by converſe: both parties are alike awed to ſilence by an inviſible eye, inviſible not only to the priſoners in front, but to the company behind: not only the perſon of

* In ſome impreſſions of the Draught the miniſter's ſtation, and conſequently the views and want of views that reſult from it are not repreſented: but they will readily be conceived.

each Inſpector, but his very ſtation being perfectly concealed from every ſtation in the Chapel.*

* All this may be very well, ſaid an intelligent friend, in the way of *example*:——but how ſtands it upon the footing of *reformation*? Might it not have ultimately a corruptive effect upon the perſons thus exhibited, ſhaming them indeed and diſtreſſing them at firſt, but by degrees hardening them, and at length rendering them inſenſible? Would it not, in ſhort, to this purpoſe be a ſort of perpetual pillory?

To this I anſwer—

1. That of the two, example and reformation, example is the greateſt object: and that in the proportion of the number of the yet innocent to that of the convicted guilty.

2. That the offences for which perſons are ſubjected to this puniſhment are deemed of a deeper die, and as ſuch to require a puniſhment more ſevere than that even of thoſe who are conſigned to the pillory.

3. That at their trials there is not one of them but muſt have been exhibited in a manner equally public, and in circumſtances reflecting a much greater meaſure of humiliation and ſhame: with this difference too, that on that occaſion each perſon is exhibited ſingly, and the eyes of the whole audience are fixed upon him alone:—that he is to ſpeak as well as to hear, and ſtands forth in effect the ſole hero of the melancholy drama: whereas, on an exhibition like that here propoſed, the attention of the ſpectators, being divided among ſo many, ſcarcely attaches individually upon any one. Beſides that upon his trial a man is held forth to view with the marks of guilt freſh upon his head: whereas at the remote period in queſtion he does not appear till a progreſs more or leſs conſiderable may be preſumed to have been made

made in the career of penitence, and the idea of guilt has been covered by expiation.

Should theſe anſwers be thought to have diſproved the miſchief, nothing can be ſimpler than the remedy. A maſk affords it at once. Guilt will thus be pilloried in the abſtract, without the expoſure of the guilty. With regard to the ſufferer, the ſting of ſhame will be ſheathed, and with regard to the ſpectators, the ſalutary impreſſion inſtead of being weakened will be heightened, by this imagery. The ſcene of direction will be decorated by—why mince the word?—by a maſquerade: a maſquerade indeed, but of what kind? not a gay and dangerous, but a ſerious, affecting, and inſtructive one. A Spaniſh *puto-da-je* has ſtill more in it of the theatre:—and what is the objection there?—That the ſpectacle is light or ludicrous?—No: but rather that it is too ſerious and too horrible.

This it is to be noted is the only occaſion on which their eyes will have to encounter the public eye. At all other times, be their viſitors ever ſo numerous, there will be no conſciouſneſs of being ſeen, conſequently no ground for the inſenſibility which might be apprehended from the habit of ſuch conſciouſneſs.

Where there is patience to diſcriminate, the worſt inſtitutions may afford a hint that may be of uſe. I would not turn my back upon reaſon and utility, though I found them in the Star-Chamber or the Inquiſition. The authors of the latter inſtitution, in particular, whatever enormities and abſurdities may be laid to their charge, muſt at leaſt be allowed to have had ſome knowledge of *ſtage-effect*. Unjuſt as was their penal ſyſtem in its application and barbarous in its degree, the ſkill they diſplayed in making the moſt of it in point of impreſſion, their ſolemn proceſſions, their emblematic dreſſes, their terrific ſcenery, deſerve rather to be admired and imitated than condemned.

Nihil ex ſcenâ, ſays Lord Bacon, ſpeaking of procedure in the civil

civil branch of the law: *Multum ex ſcenâ*, I will venture to ſay, ſpeaking of the penal. The diſagreement is but verbal: *Scena* in the language of the noble philoſopher, means *lying*; in mine, *ſceno* is but *ſcenery*. To ſay *Multum ex ſcenâ*, is to ſay loſe no occaſion of ſpeaking to the eye. In a well compoſed Committee of Penal Law, I know not a more eſſential perſonage than the Manager of a Theatre.

§ 8. *INSPECTION-GALLERIES*

AND

LODGE.

IN the three ſtories of the Inſpection-Tower, Annular Inſpection-Galleries, low and narrow, ſurrounding in the lowermoſt ſtory a circular Inſpection-Lodge; inſtead of three ſtories of Inſpection-Lodge, all circular, and in height filling up the whole ſpace all the way up.*

* It is to the ingenuity of Mr. Revely that I am indebted for this very capital improvement, which I did not ſubmitt to without reluctance. It occurred to him in contriving the conſtruction of the Chapel, in the room of ſome crude ideas of my own, a detailed deſcription of which would take up more room than it would be worth. The floors of the preſent Inſpector's-Galleries were to have been continued inwards as far as what conſtitutes now the area of the Chapel. The Governor and his ſubordinates were to have lived in them on week days, and on Sundays theſe floors were to have anſwered the purpoſe of galleries to the Chapel. All the way up from floor to floor there were to have been windows, which were to have been got rid of ſome how or other during the time of Divine ſervice.

Two deſiderata had been aimed at in the contrivance of the Inſpector's ſtations: 1. The unbounded faculty of ſeeing without being ſeen, and that as well while moving to and fro as while ſitting or ſtanding ſtill: 2. The capacity of receiving in the ſame place viſitors who ſhould be in the ſame predicament.

The ſecond of theſe objects is not to be diſpenſed with. If the Governor or Sub-Governor cannot for the purpoſes of his buſineſs, receive company while he remains in this ſtation, he muſt as often as he receives them quit not only the central part, but the whole circle altogether: leaving his place in the Inſpection-part to be ſupplied by ſomebody on purpoſe. Hence on the one hand a relaxation of the inſpective force: on the other, an increaſe in the expence of management.

Suppoſe it poſſible, as I conceive it will be found, for the Inſpector's inviſibility to be preſerved, upon condition of giving up that of the viſitors, would the former advantage be ſufficient without the latter?——Not abſolutely: for confederates, as the diſcrimination could not well be made, might gain entrance in numbers at a time, and while one was occupying the attention of the Inſpector, others might by ſigns concert enterprizes of miſchief or

eſcape

eſcape with the priſoners in their Cells. Such at leaſt might be the apprehenſion entertained by ſome people: at leaſt upon the face of this ſingle ſuppoſition: though to one whoſe conception ſhould have embraced the whole ſyſtem of ſafeguard and defence, the danger would I think hardly appear formidable enough to warrant the incurring any expence or ſacrificing any advantage.

Upon the firſt crude conception, as ſtated in the Letters, my hope had been, that by the help of blinds and ſcreens, the faculty of inviſible inſpection might have been enjoyed in perfection by the whole number of perſons occupying the central part, wherever they were placed in it, and whether in motion or at reſt. I am now aſſured, and I fear with truth, that theſe expectations were in ſome reſpects too ſanguine. I mean as to what concerns ideal and abſolute perfection: at the ſame time that for real ſervice, their completion, I truſt, will not be found to have ſuſtained any material abatement.

Were I to perſiſt in endeavouring to give this property of inviſibility with regard to the Cells as well to the perſon of the Inſpector as to every part of the large circle in I which place him, and to every object in it, his ſituation would ſtand expoſed, I am aſſured

aſſured, to this dilemma: if he has light enough to do any buſineſs, he will be ſeen, whatever I can do, from the Cells: if there is not light enough there for him to be ſeen from the Cells, there will not be light enough to enable him to do his buſineſs.

The difficulty would not be removed, even tho' the Chapel part in the center were thrown out, and the Inſpector's apartment extended ſo as to ſwallow up that central part, and occupy the whole circle. My expedient of diametrical ſcreens, or partitions croſſing each other at right angles, would not anſwer the purpoſe:* if they extended all the way from the circumference to the center, leaving no vacuity at that part, they would divide the whole circle into ſeparate quadrants: a man could be in but one of theſe quadrants at a time, and while he was in that one he could ſee nothing of the Cells correſponding to the others. Stationed exactly in the center, he would ſee indeed, but he could at the ſame time be ſeen from, all the Cells at once. No ſpace can ever be ſo exactly cloſed as to exclude the light, by any living figure.

Suppoſing the apertures I had contrived in the ſcreens inſtead of doors capable of anſwering the purpoſe, they would leave to the Lodge ſo provided

* See Letter II.

but

but little if any advantage over an annular Gallery at the extremity of the circle, as contrived by Mr. Revely. The circuit might be performed nearer the center, but ſtill to carry on the proceſs of inſpection a circuit muſt be performed. Nor could it be performed in an exact circle: the ſmaller circle thus meant to be performed, would be broken in upon and lengthened in four places by zigzags, which would retard a man's progreſs more than an equal length of circle, and might upon the whole conſume a portion of time little leſs than what would be requiſite for performing the perambulation in Mr. Revely's Inſpection-Galleries.*

* The truth is, what one would hardly have ſuppoſed, that for performing this perambulation, a walk of about 46 foot and back again in a ſtraight line is pretty well ſufficient. Station the Inſpector any where with his eye contiguous to the outer circumference of his ring, he can, without quitting the ſpot he ſtands or ſits on, command a view of ſeven Cells on each ſide. In the ſame ring 46 foot may be deſcribed in walking without deviating from the right line: and 46 foot is the length of the chord ſubtending the ſpace occupied in the circumference by 5 Cells. A walk then, in a line equal and oppoſite to the chord ſubtending the part of the Gallery that correſponds to the Dead Part, will give an Inſpector in his Gallery a view of the whole circuit. If, as in caſe of the admiſſion of female priſoners, the circuit be divided in any ſtory between a male and female Inſpector, the part allotted to each may, it is evident, be commanded without any change

Add to this, that the darkneſs thus ſpread over the ſtation of the Inſpector, would not admitt of any cure. A candle could not be made to illuminate any object he had occaſion to ſee, without throwing out rays that would render him more or leſs viſible, and his ſituation and occupation more or leſs apparent, from the Cells. If a ſcreen concentric to the circumference of the room were any where interpoſed, and light admitted within ſide of it by a ſky-light or void ſpace over the center of the building, that would increaſe the length of the zig-zag circuit to be performed through the diametrical ſcreens, ſtill more: if there were no ſuch concentric ſcreens, the thorough light would be completely let in, rendering the Inſpector and every other object in the room compleatly viſible from all the Cells.

change of place. The views thus obtained are not, it muſt be confeſſed, compleat ones: more or leſs of every Cell but two being all along intercepted by the Partition-walls. But it is chance only, and not deſign, that can withdraw a priſoner in any part of the circuit out of the Inſpector's view: never knowing in what part of the Gallery the Inſpector is at the time, no one part of any Cell can promiſe him any better chance of concealment than another.

The calculation, it is to be obſerved, is taken from the real deſign: were the meaſurement to be performed upon the engraving, the reſult, owing to the error already mentioned, would be ſtill more favourable.

Happily

Happily this union of incompatible conditions, however requiſite to fill up the meaſure of ideal perfection, is far from being ſo with regard to practical uſe. In the narrow annular Gallery, as contrived by Mr. Revely, the condition of inviſibility may be preſerved, I am aſſured, in full perfection. By being painted black in the inſide that ſtation may be rendered by the help of blinds, as I had propoſed, compleatly dark, its narrowneſs rendering it impermeable to the thorough light.

To change his proſpect, the Inſpector muſt, it is true, be obliged to ſhift his ſtation. He muſt therefore from time to time patrole and go his round in the manner of a centinel or a watchman: and this muſt form a conſiderable part of the employment. It need not however occupy any thing near the whole.* Stationed at no more than 28 or 29 foot from the exterior windows, and cloſe to the ſpace illuminated by the ample ſky-light over the Annular Well, he would have light enough to read or write by: and theſe employments, by the help of a portable ſtool and deſk, he might carry on at times at any part of the cir-

* The greateſt diſtance from one part of his range to the other would be 93 foot, being half the length of the circumference of the circle at that part.

cle. Books may be kept, entries made, as well in a room of an annular figure, as in a round or ſquare one.

Nor will the time employed in perambulation be thrown away, or expended upon the ſingle purpoſe of keeping order among the priſoners. Had he, inſtead of this ring, had the whole circle to range in, he would have had frequent occaſion thus to travel in the circumference, were it only to give occaſional orders and inſtructions to the priſoners as they ſit at work in their Cells, as well as to let them in and out in manner already mentioned.*

* See § 3, *Annular Well*, and Part II. § *Airing*.

Your occaſional vigilance will not do, ſays an objector: *Your priſoner will make experiments upon it, diſcover when Argus nods, and make his advantage of the diſcovery. He will hazard a venial trangreſſion at a venture: that unnoticed, he will go on to more material ones*—Will he? I will ſoon put an end to his experiments: or rather, to be beforehand with him, I will take care he ſhall not think of making any. I will ſingle out one of the moſt untoward of the priſoners. I will keep an unintermitted watch upon him. I will watch until I obſerve a tranſgreſſion. I will minute it down. I will wait for another: I will note that down too. I will lie by for a whole day: he ſhall do as he pleaſes that day, ſo long as he does not venture at ſomething too ſerious to be endured. The next day I produce the liſt to him.—*You thought yourſelf undiſcovered: you abuſed my indulgence: ſee how you were miſtaken. Another time you may have rope for two days, ten days: the longer it is, the heavier it will fall upon you. Learn from*

One expedient there remains by which, if it be worth while, the inviſibility of the Inſpector may be preſerved to him, without the obligation of ever ſtirring from his ſeat. This however is ſubject to two reſtrictions: one is, that whenever he quits a particular ſpot in the room to paſs to any other part of the ſame room he muſt become viſible: the other is that his inviſibility is not ſhared by any other perſon in the room. The expedient is to place the Inſpector in a kind of lantern, ſhaped ſomewhat like two ſhort necked funnels joined together at their necks.

Placed as before on a floor ſituated midway between the floor and the ceiling of the lowermoſt of the two ſtories he commands, his light comes to him from a ſpot elevated above the eye of a perſon ſtanding in the uppermoſt of thoſe ſtories: conſequently in all caſes above the eye of any perſon dwelling in that upper ſtory. Level with his eye whether ſitting or ſtanding, the lantern narrows to ſuch a degree as to enable him to carry his eye, cloſe to the circumference all round, without changing the ſpot he ſits or ſtands on.

from this, all of you, that in this houſe tranſgreſſion never can be ſafe. Will the policy be cruel? — No; it will be kind: it will prevent tranſgreſſing: it will ſave puniſhing.

To give him his view, the lantern is pierced at both elevations with ſmall holes, correſponding, as upon trial ſhall be found moſt convenient, each of them to one or two or ſome greater number of the Cells. Theſe holes are no larger than the aperture of a common ſpying glaſs, and like that cloſed by a piece of glaſs, which if neceſſary might be coloured, or ſmoked, or darkened by a blind. Grant that after all they will not perfectly exclude the thorough light, nor prevent his figure from being to a certain degree viſible from the Cells. Still however the part of his figure thus betrayed will be ſo ſmall, that to the purpoſe of diſcovering to a priſoner in his Cell whether the eye of the Inſpector is at that moment directed towards him or us, it will be ſame thing as if he were inviſible. That, by diminiſhing the apertures to a certain degree, the effect might be compaſſed, is indubitable: for the lantern might be of the thinneſs of paper; in ſhort it might in that part be of paper and then a pin-hole would be ſufficient to give him a view. Any opake object to let down by a line and pully on his going out would prevent his abſence from being diſcernible. The difference between a body of that magnitude conſtantly at reſt and one occaſionally.

ſionally in motion would be marked by the ſmallneſs of the apertures.

At the altitude reaching between the height of his eye when ſitting, and the height of his eye when ſtanding, the lantern could not be too narrow: it ſhould be only juſt wide enough to admitt his head and ſhoulders with eaſe. Above and below that height the wider the better, for the ſake of air and room, ſo as it did not ſwell out in ſuch manner as to intercept his view.

The next queſtion is, how to prevent the priſoners from ſeeing when it is he quits his ſtation? His exit and return if performed by a door in the ſide, would be viſible from all or almoſt all the Cells: his lantern not ſerving him in the capacity of a ſcreen on ſuch occaſions to any degree worth mentioning. To prevent ſuch diſcovery, his entrance muſt be, not at an ordinary door on the ſide, but at a trap-door by a ladder from below. The lantern might however beſides that be furniſhed with a door at the ſide, to give him paſſage at times when the concealment of his ſituation was no longer material, and when he ſaw occaſion to ſhew himſelf for any purpoſe to the inhabitants of any particular Cell: for inſtance to give a priſoner paſ-

ſage to or from his Cell for the purpoſe and in the manner already mentioned.

The central aperture, large as it is would be no bar to the employing of this contrivance. The lantern, it is true could not occupy this central part: it muſt be placed ſomewhere on one ſide of it, in ſome part of ſome ſurrounding ring. The Inſpector therefore, while ſtationed in this lantern, would not have a view equally near of all his Cells: but of all he would have ſome view, and that, one may venture to ſay, a ſufficient one: the difference would only be the diſtance from the center of the lantern to the center of the building: ſay from ten to a dozen foot. The part too from which he was in this manner fartheſt removed might be the Dead part where there are no Cells: a diviſion which upon the preſent plan, occupies five parts in twenty-four of the whole circuit.

Still however an apartment thus circumſtanced would not ſerve perfectly well for viſitors: for they at any rate would be viſible to the priſoners: which for the reaſons already mentioned, it were better they ſhould not be. Here then comes in one uſe of the Inſpector's Lodge, a room ſituated within

within the Inſpection-Gallery, and encircled by it all round. Many other uſes, and thoſe very material, will be obſerved in it when the conſtruction has been deſcribed: uſes, to which, it will be equally manifeſt that a tranſparent room, fitted up with an inſpection lantern, would not be applicable with advantage.

The Inſpector's Lodge is a circular or rather annular apartment immediately underneath the Chapel. The diameter I propoſe now to give it is 54 foot including the aperture in the center.*

The central aperture in this ſtory is of the ſame diameter as in the area of the Chapel, and the dome that crowns it, viz. 12 foot: it ſerves here to light the center of the *diametrical paſſage*, of which under the head of *Communications*. This aperture is likewiſe of farther uſe in the way of ſafeguard: for which alſo ſee the head of *Communications*.

* In ſome of the impreſſions of the Draught it appears but 42 foot: difference 12 foot. But of this ſix foot is taken away from this part by an error in the Draught as already mentioned: the other ſix foot, by the three foot added to the depth of the Inſpection Gallery in this ſtory: an addition which I have determined to take away: it has no ſpecific uſe; and it would throw the Lodge ſo far back as to be precluded by the bottom of the middlemoſt Inſpection Gallery from the poſſibility of having any view at all of the uppermoſt ſtory of Cells.

As the central aperture in the floor of the Lodge gives light to the paſſage in the ſtory underneath, ſo does the correſpondent aperture in the area of the Chapel give light to the Lodge.

Of theſe central apertures that which is in the floor of the Chapel takes nothing of the room from viſitors. During Chapel-times it is cloſed: the ſtate of darkneſs to which it thereby reduces the Lodge is then of no conſequence, ſince at thoſe times nobody is there. So likewiſe in a cold winter's evening, when day-light gives place to candle-light, the faculty of cloſing this aperture will probably be found to have its convenience. Its height, at the circumference, is that of the Inſpection-Gallery, about 7 foot: at the central aperture about 13½ foot*: within that aperture, about 61 foot: that being the depth below the ſky-light by which the central apertures are crowned. The ceiling is conſequently a ſloping one: dropping in the courſe of 18 foot about 6½ foot: viz. from 13½ to 7.

* The Draught does not give quite ſo much. The higher the better, ſo long as it does not raiſe the floor of the Chapel ſo much as that the heads of the Chapel viſitors, when ſtanding, ſhall conceal the Miniſter from the priſoners when kneeling in the ſecond ſtory of Cells.

All

All round the circuit, the Dead part excepted, runs a narrow zone of window, to open to the Lodge an occaſional view of the Cells. Of theſe the two lower ſtories may be ſeen through the lowermoſt Inſpection-Gallery: the others without any intermedium.

The ways in which this view might be opened are more than one: the ſimpleſt is to put two rows of panes: one for giving a view of the two lowermoſt ſtories of Cells, a little below the higheſt part of the upright partition: the other for the four remaining ſtories, in the chord ſubtending the angle made by the junction of that partition with the cieling. To theſe may be adapted blinds of coarſe white muſlin or linnen, pierced every inch or two with eyelet holes about the ſize of an ordinary ſilver ſpangle. By this means matters may unqueſtionably be ordered in ſome way or other, ſo that no view at all ſhall be obtainable in the Cells of any thing that paſſes in the Lodge: at the ſame time that a perſon in the Lodge may, by applying his eye cloſe to any of the holes, obtain a perfectly diſtinct view of the correſponding Cells.

By the central aperture, were that all, a moderately good light, it is ſuppoſed, would be afforded to the Lodge: and this light cannot but receive ſome addition

addition from the luminous zone thus given to the circumference.*

To gain the height at which the buſineſs of inſpection can in this manner be occaſionally performed from the Lodge, an aſcent of about 1 or ½ to 2 foot muſt be made: this may be done by a circular bench of about 2 foot wide, attached all round to the Partition-wall. It may be diſtinguiſhed by the name of the *Inſpection-platform* or *Inſpection-bench.*

By means of the lower part of this zone the Inſpector of the Gallery attached may himſelf be inſpected by his ſuperiors from the Lodge: reciprocity will be prevented by the advantage in height given to the commanding ſtation. He may alſo be relieved at any time: and whenever the windows of the Gallery are thrown open for air, the Lodge ſucceeds, in a manner of courſe, to its inſpection-powers: the view brightening of itſelf at the time when a view particularly clear is more particularly wanted. So likewiſe when the In-

* The Pantheon at Rome, which is more than twice the height of the ſpace between the floor of the Lodge and the opening ſky-light over the aperture, is lighted, and according to Mr. Revely's obſervation, very well lighted, by an aperture of about twice the diameter of the one here propoſed.

ſpector in the Gallery is obliged to ſhew himſelf at any particular ſpot, for inſtance by opening the door of one of the Cells, loſing thereby his omni-preſence for the time.*

The Lodge is the heart, which gives life and motion to this artificial body: hence iſſue all *orders*: here center all *reports*.

The converſation-tubes, ſpoken of in the Letters, will on this occaſion be recollected: here they will find employment in more ſhapes than one.

One ſet is for holding converſe with the ſubordinate Inſpectors in the two ſuperior Galleries. A ſmall tube of tin or copper† paſſes from the Lodge,

* In a Panopticon which had eight ſtories of Cells, it might perhaps be not amiſs to make the experiment of the Lantern. It might be performed on a floor between the Lodge and the Chapel: the ladder or ſmall ſtaircaſe to it, like that of a pulpit, aſcending through the ceiling of the Lodge. It might be tried at a ſmall expence: and in caſe of its not anſwering, it would be eaſy to give to this ſtory the form of the other. Poſſibly in different ways both arrangements might have their uſe.

But the ſorts of Panopticons to which the contrivance of the Lantern is more particularly adapted, are thoſe in which ſecluſion from ſociety would be out of the queſtion, ſuch as Houſes of Induſtry, free Manufactories, or Schools.

† About the ſize of a *pea ſhooter*, a play-thing uſed by children for blowing peas will probably be ſufficient.

in

in an horizontal direction, to one of the ſupports of the lowermeſt Inſpection-Gallery running immediately underneath the roof, to which it is attached by rings. Here, bending to a right angle, it runs up along the ſupport till it reaches that one of the two ſuperior Galleries for which it is deſigned: it there terminates in a mouth-piece level with the ear or mouth if a perſon ſitting there. A ſimilar mouth-piece is fitted to it at its commencement in the Lodge.

A tube of this ſort for each Gallery may be attached to every one, or every other one, of the 19 Gallery-ſupports correſponding to the number of the Cells.

The tubes belonging to the different ſtories ſhould be attached together in pairs, with their reſpective mouth-pieces in the Lodge contiguous: that a ſuperior in that apartment may have it in his power to hold converſe with the ſubordinates of the two different Galleries at the ſame time, without being under the neceſſity of vibrating all the while from place to place.

Whether the voice alone will be ſufficient, or whether a bell will be neceſſary, to ſummon a ſubordinate Inſpector from the moſt diſtant part of his Gallery to the ſtation correſponding to that choſen

by

by the ſuperior in the Lodge, may perhaps not be capable of being decided to a certainty without experiment. If a bell be neceſſary it may be convenient to have one for every tube: and the wire by running in the tube as in a ſheath will be preſerved from accidents.*

* The power poſſeſſed by metallic tubes of conveying the ſlighteſt whiſpers to an almoſt indefinite diſtance, can be no ſecret to ſuch readers as have ſeen any of the exhibitions of Speaking Figures, whoſe properties depend upon this principle.

Many a reader may alſo have ſeen Mr. Merlin's ingenious contrivance of written tablets of orders, for maſters above to ſervants below, an index pointing to a tablet in the ſuperior room, giving motion to an index pointing to a duplicate tablet in the inferior room, upon the principle of the drawing machine called a *pantograph*. The converſation tubes abovementioned might perhaps ſupply the place of thoſe order-tablets, and if at all, with very conſiderable advantage. The intercourſe by the tablets is *limited* to the few orders they can be made to hold: it is not reciprocal: the apparatus, from what I recollect of Mr. Merlin's price, would I ſhould ſuppoſe be more expenſive.

For ſuch purpoſes the tube alone without a bell would anſwer the purpoſe, ſuppoſing the ſervant to be in the room into which it opened, and not unwilling to receive the order: but for ſummoning him from a diſtant part of the houſe, and for putting a negative upon all pretence of not hearing, nothing it is evident but a bell can ſerve.

The tube, as already mentioned, might ſerve as a ſheath to encloſe the bell: thus the expence of the ſheaths, which are at preſent employed in ſome caſes, would be ſaved. At the places

The other ſet of converſation-tubes is to enable an Inſpector in the Lodge to hold converſe in his

places where cranks are neceſſary, the tubes, that the continuity may not be broken, muſt be enlarged to receive them. Whether the voice would continue intelligible, as well as audible, after ſo many inflexions of the tube as may be neceſſary in ſome caſes in common houſes, is more than without experiment I can pretend to ſay. In the preſent caſe there is but one angle, and even that, in caſe of neceſſity, might be got rid of.

Wire, by its rigidity being liable to twiſt and ſnap, perhaps the flax of New South Wales, when that admirable commodity comes to be ſupplied in ſufficient quantities for manufacture, might be ſubſtituted with advantage.

Under the different mouth-pieces opening into the ſervants' apartment, might be painted the names of the rooms to which they reſpectively correſponded.

Copper, by thoſe who would not grudge the expence, would on ſeveral accounts be evidently preferable to tin. In the maſter's apartment, gilt mouth-pieces would form an ornamental addition to the furniture.

It is certainly an aukward circumſtance, and which occaſions much waſte of time in families, for a ſervant to be obliged to go up three or four pair of ſtairs to receive orders which are to be executed in the kitchen from whence he came.

Since writing the above, I recollect the having ſeen a tube employed for this purpoſe many years ago at Meſſrs. Nairne and Blunt's, Mathematical Inſtrument-makers, in Cornhill, to great advantage. It reaches from the bottom of the ſtaircaſe to a level with a workſhop in the garret.

At Mr. Merlin's too I recollect having heard of an inſtance in which the principle is employed in a piece of mechaniſm ſet up

ſince

own perſon, whenever he thinks proper, with a priſoner in any of the Cells. Fixed tubes, croſſing the Annular-Well and continued to ſo great a length being plainly out of the queſtion, the tubes, for this purpoſe can be no other than the ſhort ones in common uſe under the name of *ſpeaking-trum-trumpets*. To an Inſpector ſtationed in the Lodge it is not indeed in every part of every Cell that a priſoner with whom he may have occaſion to hold converſe will be already viſible. But to render him ſo there needs but an order ſummoning him to the grating: which order may be delivered to him through the local ſubordinate from the Inſpection-Gallery belonging to that ſtory of Cells.

Here may be obſerved the firſt opening of that ſcene of clock-work regularity which it would be ſo eaſy to eſtabliſh in ſo compact a microcoſm.

ſince I was there. Diſcourſe is carried on in whiſpers between two perſons addreſſing themſelves to two heads ſet up at the oppoſite ends of a long room. There muſt therefore be two angles made; two perpendicular tubes inſerted into an horizontal one.

It is curious to think what a length of time an idea may lie, without receiving ſome of its moſt obvious as well as uſeful applications. For how many centuries was the art of engraving for impreſſions practiſed to inimitable perfection on ſmall ſtones, without its occurring to any one to apply it to plates or types upon a large ſcale?

Certainly,

Certainty, promptitude, and uniformity are qualities that may here be diſplayed in the extreme. Action ſcarcely follows thought, quicker than execution might here be made to follow upon command.

Turn now to the good Howard's Penitentiary-Town, and conceive a dozen Taſk-maſters and Turnkeys running on every occaſion from one corner of it to the other and back again (little leſs than ⅛ of a mile) to receive ſome order from the Governor, the priſoners their own maſters all the while.

Hither come the cuſtomers to ſuch priſoners as exerciſe their original trades: at ſtated times, to bring materials and take back work: and at moſt times to give orders. By the converſation-tubes, converſe for this as well as every other permitted purpoſe, is circulated inſtantaneouſly with the utmoſt facility to the greateſt diſtance. Even the intervention of the local Inſpector is not neceſſary. A call from a ſpeaking trumpet brings the remoteſt priſoner to the front of his Cell, where he may be ſeen by the cuſtomer as well as heard. Under each ſpeaking-trumpet hangs a liſt of the Priſoners to whoſe Cells it correſponds. The names are on ſeparate cards, which are ſhifted as often as a priſoner

ſoner happens to be ſhifted from Cell to Cell. As to the two loweſt ſtories of Cells, converſe with them may be carried on directly from the correſponding Inſpection-Gallery.

The Lodge may ſerve as a Common-Room for all the officers of the houſe. Of its diviſion into male and female ſides I ſpeak elſewhere. On the male ſide the Sub-Governor, the Chaplain, the Surgeon, and perhaps another officer ſuch as the head School-maſter, may have each his ſeparate apartment, divided however from the reſt no otherwiſe than by a moveable ſcreen, not reaching to the ceiling, and leaving free paſſage as well round the central aperture as round the Inſpection-Platform attached to the ſurrounding wall.

In this ſame apartment the officers, male and female, may make their meals in common. Room is not wanting. Why not, as well as fellows in a College? This ſurely would not be the leaſt active nor leaſt uſeful of all Colleges. Too much of their time cannot be ſpent in this central ſtation, when not wanted on immediate duty. No expedient that can help to bring them hither, or keep them here, ought to be neglected. The legitimate authority of the Governor and Sub-Governor will here receive aſſiſtance, their arbitrary power re-

ſtraint, from the preſence of their aſſociates in office. A Governor, a Sub-Governor, will bluſh if not fear, to iſſue any tyrannical order in preſence of ſo many diſapproving witneſſes: whoſe opinion, tacit or expreſſed, will be a bridle upon his management, though without power to oppoſe and diſturb it. Monarchy with publicity and reſponſibility for its only checks, ſuch is the beſt, or rather the only tolerable form of government for ſuch an empire.

In Mr. Howard's Penitentiary Town, each Officer has his houſe, all ſeparate, and all out of ſight and hearing of the priſoners. This latter arrangement may be the more agreeable one of the two to the ſervant, but which is the beſt adapted to the ſervice?

The want of ſide windows as in other rooms will render it eligible at leaſt, if not neceſſary, to make a proviſion of *air-holes* for the purpoſe of ventilation.

The ſupports to the ſurrounding Gallery, as ſhewn in the engraved plan, might, if made hollow anſwer this intention, and ſave the making an apparatus of tubes on purpoſe. In this caſe however each ſupport would require an horizontal tube inſerted into it at right angles, which might run

cloſe

cloſe and parallel to the converſation-tubes, immediately under the ceiling.

It is at the level of the ceiling that theſe air-tubes ſhould diſcharge themſelves into the Lodge, and not at the level of the floor. In the latter caſe they could not anſwer this intention without a continual blaſt, which in cold weather would be very troubleſome. In the other way the blaſt beginning above the level of the head, is directed upwards and gives no annoyance. Health is not bought at the expence of comfort.

In giving the ſlope to the ceiling in manner above-mentioned, I had two conveniences in view: ventilation and ſtowage. To ventilation, which is the principal object, a rectilinear ſlope in this caſe is more favourable not only than a horizontal ceiling, but even than a coved ceiling or dome. Both would have left a ſpace untraverſed by the current: in the one caſe the ſpace would have been angular: in the other there would ſtill have remained ſome ſpace for ſtagnant air, though leſſened by the abraſion of the angle.

The reduction of the height of the ceiling at this part leaves a quantity of room, of which ſome uſe may be made in the way of *ſtowage*. From the area of the Chapel the floor muſt, as well as the

ceiling below, have a certain degree of ſlope to afford the ſecond ſtory of Cells a view of the Miniſter. But the declivity in the ceiling begins, not under the *circumference* of that area, but much nearer the center, viz. at the central aperture. Hence, after neceſſary allowance for thickneſs of floor and ceiling, there will remain a void ſpace of conſiderable extent all round, the exact dimenſions of which it is needleſs to particulariſe: Diſpoſing the ſlope here and there in regular and gentle flights of ſteps for the purpoſe of communication, in other places the thickneſs of 2 or 3 or 4 ſteps may be laid together to receive drawers or preſſes.

A place ſtill more convenient in proportion to the extent of it, in the way of ſtowage, will be the ſpace immediately underneath the Inſpector's platform in the Lodge. It will ſerve for preſſes or drawers opening into the ſurrounding Gallery.

A more conſiderable ſpace runs from behind the two ſuperior Galleries, under the ſteps of the Chapel-Galleries to which they are reſpectively attached. Tools and materials of work of which the bulk is not very conſiderable will find very convenient receptacles in theſe ſeveral places, where they will be in readineſs to be delivered out and received back

back by being handed over the Annular Well, to the priſoners in their Cells.

As to the mode of *warming* the Lodge it will be conſidered in the Section ſo entitled.*

* How to reconcile the uſe of the Lodge as a Dining room with the purity of air neceſſary to the reception of company in the Chapel? By making the Saturday's dinner the laſt meal, dedicating to ventilation the whole interval between that period and the commencement of Divine ſervice in the enſuing day.

§ 9. OF THE

COMMUNICATIONS IN GENERAL.

UNDER the general name of *Communications* may be compriſed,

1. The Paſſages, and Galleries ſerving only as paſſages.

2. Staircaſes.

3. Gates, Doors, and apertures anſwering the purpoſe of doors.

None of theſe but are articles of very material concern in a priſon.

In a Panopticon priſon one general problem applies to all: to extend to all of them, without exception or relaxation, the influence of the commanding principle. Cells, Communications, Outlets, Approaches, there ought not any where be a ſingle foot ſquare, on which man or boy ſhall be able to plant himſelf, no not for a moment, under any aſſurance of not being obſerved. Leave but a ſingle ſpot thus unguarded, that ſpot will be ſure to

to be a lurking place for the moſt reprobate of the priſoners, and the ſcene of all ſorts of forbidden practices.

In an ordinary public building there is an uſe in having the Communications ſpacious and numerous. In a priſon they ought rather to be few and narrow. Convenience is the great object in the one caſe, ſecurity in the other. The fewer the eaſier guarded: the narrower, the leſs force there can be at any given point to oppoſe to the commanding and defenſive force of the priſon. Nor will the ſacrifice requiſite to be made of convenience be found ſo great as might be imagined. In an ordinary public building, perſons have occaſion to paſs in indeterminate numbers at a time, and the ſame perſon frequently. In a well-contrived and well-regulated priſon, at leaſt in a priſon upon this conſtruction, the perſons who are to paſs, and the times at which they have occaſion to paſs are all foreknown and regiſtered.—Sacrifice did I ſay? The reader has already ſeen much convenience gained, and I hope he will ſee ſcarce any ſacrificed.

The objects that required to be attended to in planning a ſyſtem of Communications for an eſtabliſhment of this kind were, 1. The *ends* to be kept in view in the contrivance 2. The places to and

from which Communications were to be contrived: the perſons and things *for* which the Communications might be wanted.

The *ends* to be kept in view with regard to the priſoners are principally four.

1. Uninterrupted expoſure to inviſible inſpection.

2. Inability to attack the keeper or do other miſchief.

3. Separation of the ſexes, if both are included in one building.

4. Prevention of converſe with priſoners of other Cells, at times of paſſing to and fro.

The *places* in queſtion are, 1. The Cells. 2. The Inſpection Galleries. 3. The Inſpector's Lodge. 4. The Chapel. 5. The Ware-rooms. 6. The Fire-places. 7. The Yards.

The *perſons* in queſtion are, 1. The Priſoners. 2. The Keepers. 3. Viſitors to the Head-keeper and other officers, on buſineſs or curioſity. 4. Viſitors to the Chapel.

The *things* in queſtion may be reduced to the head of, 1. Machines. 2. Materials for work. 3. Finiſhed work. 4. Proviſions.

§ 10. *COMMUNICATIONS—*

PRISONERS' STAIR-CASES.

STAIRCASES for the Priſoners are of courſe requiſite from the bottom to the top of that part of the building which they are to inhabit: from the ſunk ſtory below the Cells to the upper ſtory of the Cells.

I make two ſets of Staircaſes and but two—I put them into the Dead-part—I place them in ſtories one over another, and not, as was once propoſed to me, winding all over the building—I place them in a line within the inner boundary or back front of the Cells, yet not extending ſo far the other way, as to the exterior boundary or fore front—I make them of iron bars—I make the flight of ſteps run in a direction parallel, and not at right angles, to the Cell-Galleries and Inſpection-Galleries—I give them Pully-doors with warning-bells where they open into the Galleries—I carry them down

to

to the ſunk ſtory below the Cells—I make them at the utmoſt not wider than the Galleries.

1. I make two of them, partly to ſhorten in ſome degree the paſſage to each, but principally to provide for the ſeparation of the ſexes, if both are received into one building, as in a building of this kind they might be without inconvenience.*

2. I make no more than two. In a building for ordinary uſes this number might be ſcanty: it is not ſo in ſuch an one as the preſent. The occaſions on which they will be wanted are few: they may be all known and numbered.†

* See the Section on the *Separation of the Sexes.*

† 1. For meals they will not be wanted. The proviſion is hoiſted up to the Cells in trays or baſkets, by cranes, one on each ſide: a tray for each ſtory of Cells. In each ſtory one or two priſoners diſtribute the contents among the Cells. Two double Cells being taken off by the Dead part, nine remains on each ſide, with an odd one in the middle: this makes at two priſoners to a Cell, to each ſtory twenty meſſes to be hoiſted up on each ſide: at three priſoners to a Cell, 30.

There remains only airing-times as far as the priſoners are concerned. On Week days I air them by walking in a wheel without doors, [See the ſection on Airing.] Airing-times occur for each priſoner but twice in the twenty-four hours. Were it much oftener, the time employed in deſcending and reaſcending would not be altogether loſt; it would go in part of exerciſe: a neceſſary article of regimen

3. I place the ſtaircaſes of different ſtories in one pile one over another not in a ſpiral running

gimen for ſedentary employments which *cæteris paribus* I prefer for reaſons herein after given.—See § on Employments.

Inſpectors, Keepers as ſuch, have ſcarce any occaſion to enter the Cells. Stationed no more than 25 foot from the moſt diſtant part of a Cell, and from the neareſt no more than eleven, nothing but the occaſion of taking a minute examination of ſome ſmall object can ſummon them thither. Once a day at moſt will be amply ſufficient. The priſoners they let in and out of their Cells, without quitting their own ſtation, in manner hereafter deſcribed. They have beſides for their ſeparate uſe, if neceſſary, the Lodge-Stair-caſe for their loweſt floor, and the company's Stair caſes for the two floors above it.

For Taſk-maſters as ſuch, the occaſion to uſe theſe Staircaſes is but little more frequent. Their buſineſs lies in the Cells: all day long, unleſs it be at mealtime, they will be in one or other of the Cells. Raw materials may be diſtributed, and finiſhed work collected, at ſtated periods, in the ſame manner as the proviſions. This operation may be directed by the Inſpectors without ſtirring from their Galleries. If a Taſk-maſter as ſuch looks to it, it will be without going backwards and forwards on purpoſe, once upon his entrance upon his buſineſs, and once upon his leaving it.

With priſoners who work at trades they have been bred to, Taſk-maſters will have nothing to do. In many inſtances inſtruction may be conveyed from the Inſpection-Gallery: and ſo far there are no Taſk-maſters diſtinct from Keepers.

In ordinary Priſons it requires reſolution to be a Keeper: a quality in which men who have been bred to ſedentary trades are liable to be

round the building. In the latter caſe the priſoners in each ſide would in their aſcent and deſcent paſs each of them by the Cells of all the floors below his own. But ſuch a perambulation would but ill accord with that plan of ſecluſion, which, from the mitigation given to it may and ought to be adhered to with the greater ſtrictneſs. On the plan here preferred, the perambulation and thence the opportunity of converſe is reduced to its leaſt limits.*

4. I place them in the Dead-part. 1. Becauſe by that means I do not make ſacrifice of any of the Cells: 2. Becauſe I thereby bring them within reach of the Governor or Sub-Governor or both, in ſuch manner that thoſe officers may give an eye that way, without quitting for the purpoſe the Projecting front, in which will be the principal abode of the one, and the occaſional buſineſs of the other.

be deficient. But in a Priſon where a Keeper never need ſee a priſoner, without either a wall, or a grating, or a ſpace of ſeven foot between them, the moſt arrant coward need not fear being a Keeper. Courage is almoſt a ſuperfluous virtue.

* The priſoners of a Cell neareſt the Stair-caſe have no Cells at all to paſs by: thoſe of a Cell the moſt remote, but *nine*. Their inſtructions are—not to ſtop or ſpeak as they paſs: and for the obſervance of that rule, effectual ſecurity is provided, as will be ſeen under the head of *Airing*, as alſo a little below.

5. I

5. I place them within the interior boundary or back front of the Cells, and conſequently within the line of the Cell-Galleries. This I do, that the width of the Cell-Galleries in that part may afford ſufficient landing-place, as well for a priſoner when he has opened the door leading to the ſtair-caſe from the Cell Gallery, as to an Inſpector in his way to the priſoners' Stair-caſe from the Inſpection-Gallery, of which a little further on.

6. Inſtead of carrying them home to a line with the fore front or exterior boundary of the Cells, ſo as to occupy the whole depth, I make them fall ſhort of that line by a few feet, ſay four feet, excluſive of the thickneſs of the wall, and the apertures, correſponding to windows, that may be made in that thickneſs. In the ſpace thus reſerved I put water-cloſets, at leaſt for the Governor's houſe on his ſide: more eſpecially on his ground floor. In this receſs he commands without being ſeen, a view of the Staircaſe: by which means he is *neceſſarily* obliged, as well as without trouble enabled, to give a look into the Priſon once a day at leaſt, at uncertain and unexpected times. The ground-floor is more peculiarly adapted to this purpoſe, ſince from that ſtation his chance of getting a ſight of the priſoners as they aſcend and deſcend, extends to the

the inhabitants of every ſtory of Cells in the ſemi-circle on that ſide: Whereas on a ſuperior ſtory the chance would not extend to ſuch of the priſoners whoſe Cells were ſituated in any inferior one.

7. The Stair-caſes are of iron bars and not of brick or ſtone.——1. That they may be the more airy. 2. That one part may intercept the light from another as little as poſſible.—3. That the priſoners as they go up and down may be expoſed as much as poſſible to view from the Inſpection-Galleries in that quarter.

8. It is alſo for the latter reaſon that the flights of ſteps run parallel to the Inſpection-Galleries. Had their courſe been at right angles to thoſe Galleries, the Stairs being interpoſed between the priſoners in their aſcent or deſcent and the Inſpector's eye, would have ſcreened them from his view.

9. The uſe of the Pully-doors, which on opening ring warning bells, is to give notice of the approach of a priſoner, upon an occaſion mentioned elſewhere, to the Inſpector, who by that means is ſummoned to let him into his Cell, and in the mean time to have an eye upon his motions.

10. I place the doors, as in a *Protracted-Partition*, croſſing the Cell-Gallery at that part in its whole width

width, and conſequently terminating in a line with the balluſtrade: the door being hung on at the ſide neareſt to the Cells, and opening *from* the landing place, behind which runs the Staircaſe *upon* the Cell-Gallery: and not from the Cell-Gallery *upon* the landing place. In this way, partly by the wall, partly by the mode of opening, the view is pretty effectually cut off, as between the priſoners on the Staircaſe and thoſe within the Cells.*

11. In making the Staircaſes at all wider than the Galleries there would be no uſe. 1. There can never be any occaſion for conveying by the former any thing that cannot paſs along the latter. 2. There is not even ſo much occaſion for width in the ſtaircaſe as in the Galleries, ſince any thing that could not be conveyed by the ſtaircaſes might be hoiſted up into the Galleries by the crane. 3. Any thing that required greater width might be conveyed, either by the Lodge Staircaſe or thro' the Central Aperture, to the Inſpection Gallery on that floor, and to the two higher floors by the Chapel-Viſitors' ſtaircaſes, of which preſently.

* If it were worth while, the view might be ſtill more completely cut off, by adding another door parallel to the former, opening upon the landing place.

COMMU-

§ 11. *COMMUNICATIONS— INSPECTORS' STAIR-CASES.*

AS to the Keepers, Inſpectors, or Taſk-maſters, there are three ſets of Staircaſes of which they may have the uſe. The two firſt are the two ſets of Priſoners' Staircaſes juſt mentioned: the other ſet is that compoſed of the Lodge Staircaſe on the lower floor of the Inſpection Tower, and the Chapel—Viſitors' Staircaſes in the two upper ones.

In addition however to the Priſoners' Staircaſes there will be required for the Inſpectors' from their Galleries ſhort paſſages or Staircaſes of Communication traverſing the Intermediate area. Theſe I call the *Traverſing* or *Inſpectors'* Staircaſes.

To make the Inſpector's Staircaſe I proceed in this manner. At the ſide of the landing place oppoſite to that in which I have placed the door, I carry the Cellular Partition-Wall all the way up, not only acroſs the region of the Cell-Galleries, but alſo acroſs the Intermediate area, ſo as to join the Inſpection-Gallery. By this means a ſolid opake back is given to theſe Staircaſes in every ſtory:

ſtory: and a compleat ſeparation is made between the ſeveral piles of Cells with their Staircaſes and the remainder of the Dead part. Parallel to this, and between this and the pile of Staircaſe, doors, at the diſtance of about 4 foot, I place a thin partition all the way up, with blinded ſpying-holes running in the line level with the Inſpector's eye.

Between the two run two narrow flights of ſteps, no more than about two foot wide each: by that which is neareſt the thick partition, the Inſpector deſcends to that part of the Priſoners' Staircaſe which is upon a level with the inferior one of his two ſtories of Cells; by the other, he aſcends to that which is upon a level with the ſuperior one: or *vice verſâ*. Each flight of ſteps, upon its gaining the landing-place is croſſed by a grated door of equal width, made in the grating which on that ſide forms a boundary to the landing-place from top to bottom, and opening upon the landing-place. This door, which is kept conſtantly locked, the key being in the cuſtody of the Inſpector, ſerves when ſhut to keep the Priſoners from ſtraggling out of their Staircaſe over the Inſpector's Staircaſes, to pry into the Inſpection-Galleries. Being of open work, it affords the Priſoners in their Staircaſe a ſight, it is true, of an Inſpector when croſſing over

to them on his Staircaſe. But this tranſient expoſure is no derogation to his omnipreſence. To all who ſee him he is preſent: nor is he abſent with regard to thoſe who do not ſee him: ſince from his not being preſent where they can ſee him, viz. on his Staircaſe, it does not follow but that he may be preſent at ſome other part of his ſtation, from whence he may be viewing him while he is himſelf inviſible.

It is needleſs to dwell very particularly on the apertures which for the ſake of ventilation may be made here and there in both theſe traverſing partitions, as likewiſe in the interior tranſverſe boundary of the Staircaſe, from whence the thicker of thoſe partitions is continued: the uſe of them is to give room for currents of air to paſs in a horizontal direction as well as in the perpendicular one.

Thoſe which might be acceſſible to the priſoners, viz. thoſe made in the partition wall of the priſoners' Staircaſe, are in dimenſions not big enough, to give paſſage to the body of a man or boy: ſituated out of the reach of the priſoners, they are cloſed by opening or ſliding windows or ſhutters, capable of being opened and ſhut by a pole, to which the Inſpector has acceſs, and the priſoners not without his leave.

COMMU-

§ 12. *STAIRCASE* FOR *CHAPEL VISITORS,* AND FOR THE *OFFICERS APARTMENTS.*

TO the Staircaſe for company reſorting to the Chapel, I allott the middle one of the five piles of Cells. Of the lowermoſt of theſe half the height is occupied by the upper part of the Diametrical paſſage through the ſunk ſtory. The paſſage to this Staircaſe, 20 foot in length, taking that for the depth of the Projecting front, will be right over the above mentioned Diametrical one. To reach this elevation there will be an aſcent of 4½ from the ground to be performed by 7 or 8 ſteps.* To light it, which can only be done from above, will require the ſacrifice of the center one of the 5 uppermoſt Cells, the four others of which are deſtined for the Infirmary. The reaſons for

* This inequality is owing to the want of coincidence between the ſtories of the Inſpection Tower, and thoſe of the ſurrounding Cellular part: an irregularity produced by the contrivance of allowing two ſtories of the part to be inſpected to each ſtory of the part from whence the inſpection is to be performed.

uſing iron not applying here, I make this Stair-caſe of ſtone. Being in uſe only on Sundays for promiſcuous company, and then for no more than four or five hours of that day, it may ſerve for the Officers' apartment on each ſide: on which account the expence of ſtone need the leſs be grudged.

By two paſſages, one over another, and croſſing the Intermediate area, it will diſtribute the different companies to their reſpective ſeats through the channel of the Inſpection Galleries. Of theſe paſſages the lower one is upon a level with the area of the Chapel: the upper one, upon a level with the uppermoſt Inſpection-Gallery. The area of the Chapel being 4½ foot below the level of the middlemoſt Inſpection-Gallery behind it, the paſſage divides itſelf into three. The central part reaches the Chapel area without change of level, by a trench cut through the Inſpection-Gallery to that depth: on each ſide of it is a flight of ſteps, 7 or 8 in number, by which ſuch of the company as propoſe to ſit in the lowermoſt of the two Chapel-Galleries will be conveyed through the Inſpection-Gallery of that ſtory to that elevation. The uppermoſt paſſage, having no area to lead to, will be uniformly on an elevation with the Inſpection-Gallery and Chapel Gallery to which alone it

leads

leads. The Inſpection-Galleries, encircling all round the Chapel Galleries to which they are reſpectively attached, will diſcharge the company through doors made in any number of places that convenience may point out. The company who go to the area of the Chapel will have an aſcent of 13½ feet to make to reach their deſtination: thoſe who go to the lower Gallery, 18 feet: thoſe upper, 36 feet.

With the Company's Staircaſe and the paſſages attached to it, the Priſoners' Galleries and Staircaſes, it may be objected that theſe poſſeſs an indirect communication. But ſo muſt every part of every priſon with every other and with the exit. In the preſent inſtance this communication is not ſuch as can be productive of the ſmalleſt inconvenience, either in the way of danger of eſcape, or in the way of offenſive vicinity with regard to the company. To make uſe of the Company's Galleries in the way of eſcape, Priſoners muſt firſt have forced their way into one of the Inſpection-Galleries. How is this to be effected? And at night ſhould they, after having forced the grating of their Cells, attempt to force the door that opens from their Staircaſe into the Inſpection Gallery, there they find the Inſpector, whoſe bed is ſtationed cloſe to that door, that he may be in conſtan-

readineſs to receive them. As to vicinity, the neareſt part of the priſoners' Staircaſes will be at 12 feet diſtance, nor will they be any of them on any part of thoſe Staircaſes at the time: the doors that open into them from the Cell Galleries will then be locked. As to view, the priſoners Staircaſes are indeed open: but this only in front, and the company's Staircaſes and Paſſages are cloſed: nor will they ſee any thing of the priſoners, till from their ſeats in the Chapel, they behold them at a diſtance on the other ſide of the Intermediate Area, ranged in order in their Cells.

§ 13. *CELL-GALLERIES.*

UNDER the name of Galleries have been mentioned, 1. The Priſoners', or Cell-Galleries. 2. The Inſpection-Galleries. 3. The Chapel-Galleries. It is only the firſt that come under the head of *Communications.* The two others have been ſpoken of already.

Of the Cell-Galleries little need be ſaid. Attached to the ſeveral ſtories of Cells, they hang over one another and over the Grated paſſage, which but for its grating would form a part of the Intermediate area. I give then four foot in width: with balluſtrades of about $3\frac{1}{2}$ foot high. Theſe fences ſhould in height be of more than half that of a man, not only to prevent his falling over unawares, but leſt a deſperate priſoner ſhould by a mere puſh have it in his power to throw over a keeper or fellow-priſoner: more than the height neceſſary to afford that ſecurity is ſuperfluous, and it tends to reduce the ſize of the packages capable of being hoiſted up from the Intermediate area into the Cells.

I make them of bars rather than ſolid work for the ſake of ventilation. and of iron rather than wood for the ſake of ſtrength and durability.

Underneath the Galleries runs the paſſage called the *Grated Paſſage*, of the ſame width with thoſe Galleries, but on a level with the Intermediate area below, from which it is ſeparated by a grating alſo of iron, and reaching from within the thickneſs of a man (or rather of a boy) of the floor of that area, to within the ſame thickneſs of the under ſurface of the lowermoſt Cell-Gallery under which it runs. Into this the priſoners are received upon their landing from the loweſt Staircaſe, inſtead of being turned looſe into the Intermediate area, where they would have unlimited acceſs to the under Warehouſes, and by introducing themſelves immediately under the Inſpection-Galleries, ſtation themſelves out of the reach of the Inſpector's eye.

Through this Grated Paſſage there muſt be doors which may be of the ſame materials, to give acceſs to ſervants, or priſoners employed as ſervants, to the fire-places, and other offices under the Cells. On each ſide of the Diametrical-paſſage there muſt be at leaſt one pair of ſuch doors, and there may be any greater number that convenience may require.

The

The form of the balluſtrades is not altogether a matter of indifference. On account of cheapneſs and tranſparency, the upright bars ſhould be as few and as ſlender as the regard due to ſtrength will allow. On account of ſafe-cuſtody, the form ſhould be ſuch in every part as to preclude a priſoner from taking a ſpring from them, ſo as to jump upon the roof of any of the Inſpection Galleries, which, in a horizontal line, will in the neareſt part be at not more than 8 foot diſtance. On this account the upright bars, inſtead of finding ſeparate horizontal bars at bottom to meet them and afford them ſupport in a line exactly under them, are inflected towards the bottom, and the perpendicular part and the horizontal being both in one piece, the former receives ſufficient ſupport from the latter, and the firſt tranſverſe piece that preſents itſelf capable of affording a man a treading place to ſpring from, runs two or three inches within a perpendicular let fall from the rail. Prevented in this way from riſing to an upright poſture by the overhanging rail, it would be impoſſible for the moſt active jumper to take the ſmalleſt ſpring: he would tumble directly down like a dead weight. Such a configuration may often be ſeen in balconies, though given without any ſuch view. On the

the ſame account the rail, inſtead of being flat ſhould be brought to an edge, in ſuch manner that the ſection of it ſhall exhibit a triangle, either equal-legged or right-angled: and if right-angled, with the right angle within-ſide, ſo that the ſide oppoſite the right angle may form a ſlope too ſteep to ſpring from.

Theſe precautions, which would neither of them coſt any thing, ſeem abundantly ſufficient: if not, there are a variety of ways in which the deficiency might be effectually made up: though perhaps not without ſome little inconvenience or expence.*

* For inſtance to crown the rail with ſpikes, which ſhould be ſharp and ſlender: or to let fall, from the bottom of the balcony above, a row of bars projecting in ſuch a manner as to render it impoſſible for man or boy to ſtand upon the rail, in a poſture ſufficiently near to an upright one to enable him to take a ſpring.

§ 14. *DOORS.*

THE only ones that need any very particular notice are the *Folding-doors* that form the grating to the Cells. Theſe Folding-doors open outwards: 1. Becauſe by this means they may be made ſo as when unlocked, to lift off the hinges, in order to give admittance to machines and bulky packages: and this, as I am aſſured by my profeſſional guide, without prejudice to the ſecurity they afford: 2. Becauſe the opening of them inwards would be productive of continual embarraſſment, unleſs within each Cell a ſpace, equal to that required for one of the leaves to turn in, were left vacant and of no uſe. The two leaves I make unequal: the leſſer ſomething leſs than 4 foot, the width of the Gallery: the larger, will of courſe take the reſt of the ſpace, viz: about 6 foot. The leſſer is the only one I deſign to open on ordinary occaſions: were it equal to the other, that is, were it about 5 foot, its exceſs of length, when open, beyond 4 foot (the width of the Gallery into which it opens) would

would prevent its opening to an angle ſo great as a right angle: whereby the paſſage it would afford to bulky packages would be proportionally narrowed.

As to *locks*, thoſe contrived by the Rev. Mr. Ferryman, for the late Mr. Blackburn, and by him made uſe of in the conſtruction of the Glouceſter Goal, I truſt to upon the report of that ingenious architect as incapable of being picked: as ſuch, if they are not dearer than ordinary ones in a proportion worth regarding, they will of courſe demand the preference. But the inſpection principle, without detracting any thing from the ingenuity of the invention, takes much from the neceſſity of that and many other priſon contrivances. For in a Panopticon what can be the neceſſity of curious locks? What are the priſoners to pick them with? By what means are they to come at any ſort of pick-lock tools, or any other forbidden implements? and ſuppoſing the locks of theſe doors picked, and the locks of more than one other ſet of doors beſides, what is the operator the better for it? Lock picking is an operation that requires time and experiment, and liberty to work at it unobſerved. What priſoner picks locks before a Keeper's face?

An appendage which will have its uſe in the inſtance of every door to which the priſoners have acceſs

acceſs, is a *warning-bell* attached to it in ſuch a manner as to ring of itſelf upon every opening of the door. The door ſhould likewiſe be made to ſhut to of itſelf, for inſtance, by the common contrivance of a weight with a line paſſing over a pulley. By the former of theſe implements the attention of the Inſpector is drawn upon the priſoner: by the latter, the priſoners are prevented from rendering the bell uſeleſs by leaving the door open by deſign or negligence.

§ 15. *DIAMETRICAL PASSAGE.*

ON the ſunk ſtory, right through the center of the building, and leading from the approach through the center of the projecting front, runs the only thorough paſſage called the *Diametrical Paſſage.* It ſerves for the following purpoſes.

1. Admitting the Officers of the Houſe and Viſitors into the Inſpector's Lodge. 2. Admitting machines and bulky packages into the Annular area, from whence they may be either conveyed into the Store-Rooms on that floor, or by pullies or cranes hoiſted up into the Store-Rooms in the roof over the Cells.

Lengths of the Diamatrical Paſſage.

From the door in the Projecting front to the circumference of the exterior circle of the Cellular part——ſay — — — — 20

From the circumference of the great circle to the exterior circle of the Intermediate area: viz. that part of it over which run the Cell-Galleries. — — — *17

N. B. Here it meets the light from the ſky-light that crowns the Intermediate Area.

* In ſome of the impreſſions of the draught by miſtake but 16.

Brought

Brought over —— —— — 37

From the Outer to the inner circumference of the Intermediate Area —— *11

From the inner circumference of the Intermediate Area to the circumference of the central aperture in this ſtory. — — †26

N. B. Here it again receives the light in like manner from above.

From this anterior part of the circumference to the poſterior part — — 12

From the poſterior part of the circumference of the central area to the inner circumference of the intermediate area on the other poſterior ſide. — —— — 26

N. B. Here it again receives the light.

From thence to the interior Circle of the Grated paſſage under the Cell-Galleries on that ſide 7

— — — — — 119

Here it is cut into three, in a manner that will be deſcribed in ſpeaking of the *Exit.*

On the details of this Staircaſe with regard to ſituation, dimenſions, and form, it is neither eaſy nor

* In ſome of the impreſſions by the ſame miſtake 15.

† In ſome impreſſions by the ſame miſtake but 23.

neceſſary

neceſſary at this ſtage of the deſign to make a fixed deciſion. They are left very much at large by the governing principle, and convenience on this head will depend in good meaſure on local circumſtances, ſuch as the form and dimenſions of the Under Warehouſe againſt which the Staircaſe will abut, and the form and dimenſions of the Officers apartments on that ſide, in or near the Projecting front.

The form which in a general view appears moſt advantageous, is that of a ſtraight and ſimple flight of ſteps without return or curvature. The convenience of a return is, that half the room is ſaved: the inconvenience of it is, that the ſpace, a man has to traverſe in order to reach a given point, is augmented, to the amount of what would be the whole length of the Staircaſe, if laid out in a right line. The point however at which it terminates and opens into the Lodge, ſhould at leaſt not go much beyond the central point of that apartment, leſt through ignorance or deſign, acceſs ſhould be gained to the Inſpection-Gallery and thence to the Cells, by viſitors to whom ſuch privileges might not be thought fit to be allowed.

Regularity

Regularity would require, but convenience does hardly, that on the right hand of the paſſage there ſhould be a ſimilar ſtaircaſe.*

At the line where it falls into the anterior part of the Central Area, the Diametrical Paſſage is croſſed by a pair of folding-gates of open iron-work occupying its whole width. Theſe gates prevent promiſcuous viſitors from advancing any farther, and ſtraggling either into the Warehouſe on each ſide, or the poſterior part of the Intermediate Area.

Before it reaches this tranſverſe gate it receives no ſide doors on either ſide. Such doors, if opening into the anterior part of the Intermediate Area, would require porters to guard them: if into the Warehouſe, viz. the ſpace between the Intermediate and Central Area, they would render it leſs ſafe to make uſe of the labour of the priſoners in that part of the building.

The pavement of the Diametrical Paſſage being upon a level with that of the Annular Area, and the

* The right hand ſide of the Priſon being for males, requires the moſt watching and the greateſt reſort, as well on account of numbers as of ſex. Hence I make this ſide of the Lodge the principal one for the abode of the officers, and for the reception of cuſtomers and other viſitors. It is therefore on the other ſide that the room for the Staircaſe can beſt be ſpared.

exterior ſurface of the crown of the Arch level with the floor of the lowermoſt Inſpection-Gallery and that of the Inſpection-Lodge, the *height* of this paſſage will be in the clear about 11 foot, and including the thickneſs of the Arch, 12 foot.

In the floor of the Lodge the Central Aperture will in the day be in general left open, in order to give light to the Central Area. At bed-time it might either be cloſed for warmth, or left open for ſecurity: in order to expoſe to the view and offenſive force of a Keeper lying with a light in the Lodge, any priſoner or priſoners, who contrary to all human probability ſhould have made ſuch progreſs in a project of eſcape, as to find themſelves in a ſituation to make an attempt upon the tranſverſe gate.*

At the foot of the Staircaſe to the Lodge might be a *door*, the opening of which ſhould ring a

* The cover for the Central Aperture might be ſo conſtructed as to form, when lifted up on hinges, a parapet, anſwering the purpoſe of a balluſtrade, each quadrant turning upon a hinge at the circumference. There would only need a few bars to hook on horizontally, to compleat the circuit. Or, though the aperture were circular, the cover to it might might be ſquare. A central piece to lift off, of 4 foot diameter in the one caſe, or 4 foot ſquare in the other, would reduce the height of the parapet to 4 foot.

warning-

warning-bell, to advertiſe the Inſpector of the approach of viſitors as he is ſitting in his Lodge. In conſideration of this ſecurity, added to that of the Porter ſtationed at the entrance into the Approach, the front door, opening from the Approach into the Diametrical Paſſage, need not be locked; nor will any ſuch perſon as a Turnkey, or Porter to the houſe, be neceſſary. At the foot of the Staircaſe, viſitors might be ſtopped from proceeding farther without ringing a bell and obtaining the aſſiſtance of the Inſpector in the Lodge, which by the help of known contrivances he might afford without ſtirring from his ſeat.

To protect the Lodge, when thus thrown open, from the cold blaſts of a thorough paſſage, it will probably be thought neceſſary to add to the grated gates above mentioned a pair of cloſe folding doors: as likewiſe a ſimilar pair of doors on the oppoſite or poſterior ſide of the Central Area. With this defence from cold, there need be the leſs ſcruple about ſtationing a Keeper to ſleep in the Lodge, with the Central Aperture open in the floor.

§ 16. *COMMUNICATIONS—*

EXIT INTO THE YARDS.

THE Exit into the Yards is one of the niceſt parts of the anatomy of the priſon.

The Diametrical Paſſage when arrived at the anterior circumference of the farther ſide of the Annular Area, is abſorbed by it: but recommencing at the poſterior circumference, is there cut into three branches: a middle one, being a line of communication joining without diſcontinuance the Inſpection-Gallery over-head to the *Watch-houſe*, or *Look-out*, that ſerves for the inſpection of the Yards: and two lateral ones, one on the male, and the other on the female ſide. Taking their common departure from the grating of the Annular Grated Paſſage, they run on in paralleliſm, like a nerve, an artery and a vein.

The nerve which conveys to the moſt diſtant extremity of this artificial body the all-vivifying influence of the inſpection principle—the line of communication

communication, I mean—at it origin in the Inſpection-Gallery, preſerves its level for ſome ſpace: that is, ſo long as it hangs over the Intermediate Area, and till it reaches the region of the Cell-Gallery. While it does ſo, I call it the *Inſpector's Bridge*: and, to diſtinguiſh it from a ſimilar paſs on the outſide of the building, the *Inſpector's Inner Bridge*. At that line, in order to fall within the width of the Grated Paſſage, and get from thence into the Arch that leads to the outſide of the building, it makes a ſudden drop.* Four feet being the whole width, two of them are allowed to form the ſlope at the deſcent, the other two are allotted to give room for the Inſpector at the inſtant after his landing, and before any part of his body is within the Arch.† The ſpace occupied by the firſt two of theſe four feet I call the *Inſpector's Drop*:

* Of the making this ſudden drop, inſtead of giving the line of communication in that part a regular deſcent, commencing at the Inſpection-Gallery, one reaſon is, that it may not block up the Intermediate Area, and obſtruct the introduction of bulky packages from the Diametrical Paſſage. Another uſe is, the forcing the Inſpector to take a view, in his deſcent, of the Diametrical Paſſage and the Warehouſes on each ſide, as will be ſeen preſently.

† Two foot is no great thickneſs: but a man of greater corpulency is certainly not fit to bear an executive part in the government of a priſon.

that occupied by the other two the *Inſpector's Landing-place*. Under the lowermoſt ſtory of the Priſoners' Cells all round runs a ſunk ſtory of Cells compoſed of arches of the ſame width, and depth, but wanting a foot and a half of the height of thoſe which compoſe the Cells. That part of the line of communication which runs through and occupies one of theſe ſubterraneous Arches, I call the *Straits*. The whole width I divide into three paſſages: the middle one, being a continuation of the Inſpector's Landing place, I call the *Inſpector's Straits*. The two others, one on each ſide of the Inſpector's Straits, receive the Priſoners and conduct them through the Arch from the Grated paſſage: theſe I call the *Priſoners' Straits*. The floor of the Inſpector's Straits I make as much higher as the height of the Arch will admitt, above the floor of the Priſoners' Straits on each ſide: the reaſon is, that he may have the more commanding view of them, as he and they go out together. As a farther help, their floor may drop a ſtep juſt before their arrival at this paſs: and from thence it may ſink a little further by a very gentle ſlope:* andthe

* This ſlope would have the farther uſe of facilitating the carrying off the water employed in waſhing the Intermediate Area.

advantage

advantage would be encreaſed, by giving an arched form to the partition on the ſide of the priſoners on either hand, the curve bending *from* his ſide towards theirs. In this way the advantage given him may amount to about 14 inches, a ſuperiority which, taking into the account the differences of height between man and man, ſeems to be as much as can be requiſite. This ſuperiority will be thus made out :

	f.	*in.*
Diſtance from the floor of the Cell above (thickneſs of the Arch included) to the floor of the Grated Paſſage beneath—	7	6
Fall of the latter floor by a ſtep — —	0	10
Total depth of the floor on which the priſoners tread, below the floor of the Cell above — — — —	8	4
Thickneſs of the above Arch — —	1	0
Space allowed in height for the Inſpector's paſſage — — —	6	1
Diſtance of the Platform he walks upon below the floor overhead —	7	1
Diſtance of the floor the priſoners walk upon below the ſame level, as before	8	4
Subſtract the Inſpector's diſtance. —	7	1
Remains the height of the Inſpector's foot above that of the priſoners. —	1	2

In point of *width*, the line of communication, at its origin from the Inſpection-Gallery, and before it reaches the entrance of the Arch, has no particular limitation:* but at that paſs, which I call the *Straits*, it muſt conform to the dimenſions which the width of the Arch allows, after reſervation of a ſufficient ſpace for the priſoners on each ſide. If any thing like difficulty occurs any where, it muſt be at the very entrance into the Arch, ſince from that paſs it widens gradually to the Exit. Ought the width of all three paſſages to be alike? or ſhould any, and which, have the advantage in this reſpect over the other two? The occaſions which Inſpectors will have to paſs one another will occur but rarely: but in the inſtance of the priſoners, theſe occaſions will be ſtill more unfrequent. On week days, twice a day each priſoner deſcends to the Airing-wheel: but ſhould they deſcend even in pairs, or three's, they would not croſs one another at all: for one does not quit the Wheel till another has arrived there. Neither on Sundays is there any occaſion for them to croſs, at leaſt at this particular ſpot: and all *their* motions may be

* Except with reference to the oppoſite Cell: of which it covers from a direct view, a width equal to its own. On this account, the narrower the better.

pre-

pre-determined and provided for. Reſtraint is ſuitable to their condition, freedom to that of the Inſpector. A confined ſpace will have the further uſe of cramping any exertions a priſoner might be diſpoſed to uſe, in the view of burſting in upon an Inſpector when engaged in ſo narrow a paſs, with a partition between them of ſo little thickneſs.

Here follows then an example of the dimenſions in point of width that might be given to theſe paſſages.

	At the entrance into the Arch.		At the exit from the Arch.	
	f.	*in.*	*f.*	*in.*
Clear width of the ſpace for the male priſoners' paſſage, on the right hand ſide of the Inſpector's paſſage. —	2	6	4	2
Thickneſs of the partition of the Inſpector's paſſage. —	0	7	0	7
Clear width of the Inſpector's paſſage. — —	3	10	4	0
Thickneſs of the partition of the Inſpector's paſſage on the female ſide. —	0	7	0	7
Clear width of the female priſoners' paſſage. —	2	6	4	2
	10	0	13	6

Upon

Upon this view, the widths capable of being allowed are ſo much beyond what is abſolutely neceſſary, as to leave a conſiderable latitude of choice.* The partitions may accordingly be made more or leſs thick, according to the nature of the materials. When the Inſpector's paſſage, having gained the region of the Yards, aſſumes the name of the *Covered Way*, the partitions which bound it will naturally require the ſtrength and thickneſs of a wall: while the priſoners' paſſages, having no longer any part of the building to bound them, will require each of them a wall on purpoſe, as will be ſeen under the head of *Outlets*.

To give the Inſpector his poſſible view of the priſoners as they paſs, there muſt of courſe be *ſight-holes*. They may be cloſed with glaſſes. They ought to be conical: narrower on the Inſpector's ſide than on the priſoners' ſide. Though theſe holes ſhould on the different ſides be on the ſame level, they will not yield to the eye of the priſoner, the thorough light: for they are conſiderably above his eye, and no line drawn towards

* If they were not, the Arch thus allotted to receive the line of communication might be made wider than the reſt, upon the condition of giving the ſame extra width to that whole pile of Arches all the way up.

his

his eye from any hole on the one ſide, would paſs through any hole on the other: another advantage in ſinking the floor of the priſoners' paſſage below the level of the Inſpector's paſſage. The wall of this paſſage, in the ſame manner as thoſe of the Inſpection-Gallery of which it is the continuance, ſhould for the ſame reaſon be painted black: thoſe of the priſoners' paſſages, for the oppoſite reaſon, kept as white and as gloſſy as poſſible.

The leaſt convenient part of the whole is the *Inſpector's-drop.**

But out of this very inconvenience I extract a ſuperior advantage. The deſcent is by a ſort of ladder, deviating ſo little from the perpendicular as to oblige a man, in order to find footing as he goes down, to turn his face *to* inſtead of *from* the ſteps: in ſo doing he gets, and is obliged to get, a view of the Diametrical Paſſage and the Warehouſe on each ſide; ſuch as it would have been difficult to have given him by any other means. A rope or bar to hold by on each ſide, ſaves him from all danger,

* Two foot only in width to 11 foot 7 inches deſcent, leaves, at the large allowance of nearly one foot for each ſtep, little more than two inches projection of each ſtep beyond the one above it.

and

and even from all inconvenience beyond that of being obliged to turn himſelf half round.

A few inches below the level of the cieling of the Diametrical Paſſage, is a *ſight-hole* in the partition that forms a back to the ſteps: through this, as he deſcends with his face to the ladder, he gains a full view of that paſſage: and on each hand another ſight-hole, through which he gains a view equally full, through correſpondent apertures, of the inſide of the Warehouſe on each ſide.* By this means the labour of the priſoners may be made uſe of with the leſs ſcruple in all thoſe ſtations, without the neceſſity of ſtationing along with them in each place an Inſpector on purpoſe, and yet without departing in this, any more than any other inſtance, from the principle of omnipreſence.

As to the *relative width* to be given to this line of communication in its different parts, it admitts of conſiderable latitude. The moſt natural courſe is to give it the ſame width throughout. In its whole width, whatever that be, it blocks up, not only the whole of the oppoſite Cell of the firſt ſtory

* The Warehouſes are laid out as far as convenience admitts in ſuch a manner as to favour this view, upon the *radial* principle, as explained under the head of *Outlets*.

of

of Cells, but even a part of the height of the ſecond ſtory: filling up the place of the Cell-Gallery in both inſtances. To give a paſſage round from the Cell-Gallery on one ſide to the Cell-Gallery on the other, requires ſome little contrivances, with relation to which it is not neceſſary to be either very particular or very determinate. In the upper one of the two ſtories the obſtruction may be obviated, partly by lowering the cieling of the line of communication in that ſpot, partly by giving a ſtep or two from the Cell-Gallery, on each ſide, to carry the paſſenger in that ſpot acroſs and over the obſtruction: in the lower one of the two ſtories, by cutting out of the Cell, all round the obſtruction, a ſpace ſufficient to make a paſſage of equal width with the Cell-Gallery: viz. four foot.

It is ſcarce neceſſary to obſerve, that in order to maintain in this part the limitation ſet to the Priſoners' path, and to prevent them from ſtraggling into the Intermediate Area: or clambering up the line of communication, ſo as to get at top of the Inſpection-Gallery, or force their way in at the windows, the grating of the Annular Grated Paſſage muſt in its form be governed by the configuration of the parts in queſtion, and apply itſelf to them with

with particular care: and where any part of the line of communication is within reach of the prisoners, either walking in their passage or abiding in their Cells, it should be of materials equally impregnable.

§ 17. *EXTERIOR ANNULAR-WELL.**

ALL round the polygonal part of the building, runs an Annular trench, which may be called the *Exterior Annular Well*, and its floor the *Exterior Annular Area*. In width I make it 12 foot: leſs than that not being ſufficient to afford length enough to the line of communication in that part between the inſide of the building and the Look-out in the Yards.† The floor, for the ſake of carrying off the water, is 8 inches lower than the floor of the Priſoners' paſſage through the building

* This Well, except in its width, is but little different from the ſunken Wells or Areas which are ſo common in the front of the London houſes.

† See § *Outlets*. It might even be wider without inconvenience, and without any objection but the extra expence, which is only that of digging and paving. This degree of width, it is true, is not abſolutely neceſſary any where elſe than cloſe to the line of communication, to afford room for it to riſe by a ſtaireaſe to a level with the ground. But on account of light and air, it were better not to narrow the Area any where elſe.

which,

which, as mentioned in ſpeaking of the Exit, is itſelf 10 inches below that of the *Interior* Annular Well.*

It is bounded all round by a *wall*, which after ſerving for the mere ſupport of the earth from the area below to the ſurface of the ground above, is crowned by a parapet, reaching about 4 foot above that ſurface. This 4 foot added to the $7\frac{1}{2}$ foot and the $1\frac{1}{2}$ foot, *i. e.* to the 9 foot, makes 13 foot, the height which a priſoner who had let himſelf down into the Well would have to climb up before he could gain the Yards.

It is filled up and cut through in one part only, viz. at and by the line of communication above mentioned, running in the ſame direction with the Diametrical Paſſage.

The uſes of it are as follow.

1. To give light and air to the ſunken ſtory under the Cells.

To prevent priſoners from eſcaping, upon the ſuppoſition of their having let themſelves down from the windows. It anſwers in this point of view the purpoſe of a ditch in fortification on the

* Total 18 inches lower than the Interior-Well. It may be brought to this depth from 12 inches by a gentle ſlope.

outſide

outſide of the building, in the ſame manner as the Intermediate Well that runs parallel to it in the inſide.

3. To reduce the aſcent which the Chapel Viſitors have to perform in order to gain the Chapel, and to afford a place for a Kitchen and other ſuch offices to the Governor's houſe, without ſacrificing a ground-floor to that purpoſe, and lodging him and his family at an inconvenient height.

4. To afford all round a commodious place for cellaring, capable of being enlarged indefinitely as occaſion may ariſe.

Were there no ſuch trench cut on the outſide, what would be the conſequence?—Either

1. The building remaining in all other particulars the ſame, the ground muſt be brought cloſe to it all round: or,

2. The ſtory under the Cells muſt be omitted altogether, as well in the Cellular part as in the Inſpection Tower: or,

3. That ſtory muſt be raiſed above ground, and the whole building made ſo much higher.

In all three caſes, the 2d and 4th of the above advantages would be loſt. A priſoner who had let himſelf down from any of the windows would find nothing capable of preventing him from going on to the exterior wall: the convenience of cellaring

would be loſt: and, the floor of the loweſt ſtory of Cells being even with the ground, there would be nothing to hinder the priſoners in the Yards from holding promiſcuous converſe with the priſoners on that ſtory of the Cells.

In the firſt caſe too, the ſpace under the Cells would be reduced to the condition of mere cellaring: not fit for any perſon to abide in, or pay frequent viſits to, on account of the abſolute want of free air: debarred in a great degree from the light, of which the Intermediate Well would at that depth afford but a very ſcanty meaſure. The Warehouſes under the Lodge would likewiſe ſuffer in point of ventilation, by being deprived of the draught which might be occaſionally made by throwing open the windows of the rooms under the Cells, at the ſame time with the doors opening from them into the Intermediate Area.

In the ſecond caſe there would be no place for lighting fires under the Cells: no place for Warehouſes any where: no means of conveying the Priſoners into the Yards, without giving them the faculty of promiſcuous intercourſe, by carrying them in their paſſage to and from their Staircaſes abreaſt of every Cell in the lowermoſt ſtory of Cells. There would be no Diametrical Paſſage:

no

no means of conveying bulky articles into the Cells and Store-rooms over head, through the Intermediate Area: and that moſt indiſpenſible of all apartments, that vital part of the whole eſtabliſhment, the Inſpector's Lodge, would be cut to pieces and deſtroyed.

In the third caſe, which is the leaſt unfavourable one, the ſecond and fourth, of the above advantages, as already mentioned, would be ſacrificed, as alſo the third: 8 foot would be added to an aſcent already greater than could be wiſhed: and no advantage worth mentioning would be gained*

* The quantity of building would be the ſame: and the ſaving of the ſmall expence of digging would be at leaſt counterbalanced by the additional expence of ſcaffolding and workmen's loſs of time in aſcending and deſcending. The only ſaving would be that of the ſunk wall of 9 foot high for the ſupport of the ground: a purpoſe for which the ſlighteſt thickneſs of walling would be ſufficient.

§ 18. *WINDOWS*

Reaching low and Glazed; inſtead of high up and Open.

BEING informed that in a building of this height, and conſequently of this thickneſs, glaſs would not coſt more than wall, my inſtructions to the Architect were, *Give me as much Window as poſſible:* provided they are *not brought down ſo low as to render it too cold.* In conſequence, I have two Windows in each Cell: each 4 foot wide and 5 foot high.

It was Mr. Howard that firſt conceived the prevailing antipathy to glaſs: it admitts proſpect and it excludes air. Proſpects ſeduce the indolent from their work: air is neceſſary to life. On any other than the Panopticon plan the antipathy may have ſome reaſon on its ſide: on this plan it would have none. Blinds there are of different ſorts which would admitt air, without admitting proſpect: Glazed ſaſhes when open will admitt air. But blinds, as ſoon as the Inſpector's back was turned, would be put aſide or deſtroyed: and windows would be ſhut: for the moſt ignorant feel the cold-

neſs

neſs of freſh air: and the learned only underſtand the neceſſity of it to health and life.—True: but in a Panopticon the Inſpector's back is never turned. In this point, as in others, who will offend where concealment is impoſſible?

In Mr. Howard's plan obſerve what is paid for ſhutting out proſpects. The tall muſt be kept from idling as well as the ſhort: and a tall man may make himſelf ſtill taller by mounting on his bed or ſtanding on tiptoe. Therefore windows muſt not begin lower than ſeven foot from the floor. But above this ſeven foot there muſt be a moderate ſpace for a hole in the wall called a *Window*: partly for this reaſon, and partly to make ſure of ſufficient hight of ceiling, a Cell muſt be at leaſt ten foot high in the inſide. Such accordingly is the conſtruction, and ſuch the heiglit of the Cells at Wymondham.*

To what climate is this ſuited? To the Eaſt or Weſt-Indies: perhaps to ſome part of Italy: certainly not to any part of our three kingdoms. To what employments? To laborious employments, to employments that are to be carried on out of doors: to few that in ſuch a place can be carried on within doors: to few indeed that can be termed ſedentary

* See Sir T. Beevor's Letters in Annual Regiſter for 1786. Letter III.

ones. What weaver, what ſpinner, what ſhoe-maker, what taylor, what coach-maker, can work with drenched or frozen hands?

To mitigate the cold, and to exclude ſnow and rain, Mr. Howard allows a wooden ſhutter. But to do this ſuch a ſhutter muſt exclude light. What is the wretched ſolitary to do *then?* creep into his bed, or ſit down and pine in forced and uſeleſs indolence.

Mr. Howard with all this allows no firing. One would think from him there were no winter.

The thicker walls are, and the higher above the floor, holes in the wall inſtead of Windows are, the better they ſerve to keep out cold and rain: hence another reaſon for piling bricks upon bricks, and giving rooms in priſons the height of thoſe in palaces.

In rooms that have no light that is not three or four feet above the eye, weaving can ſcarcely be carried on: from ſuch rooms that profitable employment, that quiet employment, in other reſpects ſo well ſuited to an eſtabliſhment of this kind, is therefore in all its infinity of branches peremptorily excluded. For this therefore among other reaſons there muſt be other places for working in. Accordingly at Wymondham for 50 foot 4 by 14: 8

of

of Cells, you have on one part 20: 6 by 10 foot of work-room,* and in another part a work-room of the ſame dimenſions for only 29 foot 4 by 14 foot 8 of Cells.†

At Wymondham theſe holes are guarded each of them inſide and out by a double grating: a ſingle one under the eye of an Inſpector is enough for me. Were a priſoner to elude this eye, (though how he is even by night to elude the eye of a watchman, conſtantly patrolling, I do not know) and get through this grating, (though how a man is to force iron bars without tools I am equally at a loſs to conceive) where will he find himſelf?—In the Yards?——No: but in a Well, in which he has a wall of 13 foot high to climb, as we ſhall ſee, ere he can reach the Yards. And were he over this wall where would he be then? In a ſpace incloſed by another high wall, with three centinels in an incloſed walk, patrolling on the other ſide.

So far from there being any need of double gratings, the ſingle grating need not have croſs bars. It is not neceſſary it ſhould be capable of reſiſting either long continued attempts, or violent ones.‡

* Viz. a little leſs than one third addition.

† Viz. a little leſs than one half of addition.

‡ There would be an advantage in placing it as near to the outſide of the wall, and by that means as far from the inſide of

If any where in any particular pile of Cells any unguarded circumſtance in the conſtruction afforded the means of deſcent otherwiſe than by climbing down inſtead of dropping, advantage could not be taken of the weakneſs from any other pile in the circuit: in the polygonal form the pro-

the Cell, as it can be conſiſtently with ſtrength: that is, ſo as not to be liable to be thrown down by a puſh, together with the brickwork or ſtone in which it is bedded. Why? Becauſe by this means ſo much room may be gained to the Cells: the pier under each window forming a kind of dreſſer anſwering the purpoſe of a table.

Above the third ſtory of Cells bars can hardly be deemed neceſſary. The window of the loweſt being 10½ above the ſunken External Area, the following table, ſhews the heights from which a fugitive would have to drop from the reſpective windows upon a ſtone pavement: it being taken for granted that the Cell affords neither a rope, nor materials of which a rope could be made in the compaſs of a night, by perſons expoſed occaſionally at leaſt, if not conſtantly, to the eyes of a patrolling watchman.

	f.	*in.*
Lower ſtory	10	6
Second ſtory	19	6
Third ſtory	28	6
Fourth ſtory	37	6
Fifth ſtory	46	6
Sixth ſtory	55	6

jecting

jecting angles rendering it impoſſible to climb horizontally on the outſide, from a window of any Cell to any window of the Cell contiguous on either ſide.

If faſtened up in two places on each ſide, and in the middle at top and bottom, the gratings may want about 7 inches of reaching the brick-work at bottom, and about ten inches of reaching that at top: eſpecially if they terminate at top and bottom, not in an horizontal bar, but in a row of perpendicular ſpikes: by this means little more than $3\frac{1}{4}$ foot in height of grating will ſerve for a Window 5 feet in height: and in width little more than $2\frac{1}{2}$ foot of grating will ſerve for 4 foot.

Among the offenders who are liable to be conſigned to theſe ſcenes of puniſhment, it is but too common to ſee boys of little more than ten years of age. A thin perſon, boy or man, can generally get his body through, wherever he can paſs his head: that is, if not hindered by the breadth of his body, he will not be by the thickneſs. But a perſon cannot preſs againſt the point of a ſpike as he could againſt a bar. From theſe *data* gratings might be formed requiring a much leſs quantity of materials than what is commonly employed, yet of ſufficient ſtrength for the preſent purpoſe.

§ 19. *MATERIAL*

§ 19. *MATERIALS*

Arched Work—Much Iron—Plaiſter Floors.

THE peculiarities of the preſent plan are not confined to the head of conſtruction: they extend in ſome degree to the *materials*. The abundant uſe made of *iron* will hardly fail to be obſerved.

In preferring brick or ſtone-work to wood, and in conſequence arches to other partitions, it does no more than follow the plans already in vogue. Such a mode of conſtruction is more particularly neceſſary in a Panopticon than in a building of perhaps any other form. The circumſtance that renders it ſo peculiarly favourable to ventilation, renders it of courſe equally expoſed, if made of combuſtible materials, to accidents from fire. Were a fire to begin any where, eſpecially towards the center, it would ſpread all round, the wind would pour in from all quarters, the whole would be preſently in a blaze,

a blaze: and the priſoners, being locked up in their Cells, and even were there Cells open, deprived of all exit except through one or two narrow paſſages, would be burnt or ſuffocated before any aſſiſtance could be applied.

This at leaſt would be the caſe were it not for the care taken to keep accumulated a large fund of water in the ciſtern at the top of the building, ready to be poured in whenever and wherever there may be occaſion for it. But notwithſtanding this aſſiſtance, and the great ſecurity againſt all ſuch accidents afforded by the circumſtance of unremitted inſpection, as a building of this ſort is deſigned for duration, and the difference in point of expence need not be conſiderable, it ſeems beſt to be on the ſafe ſide.*

The great uſe here propoſed to be made of iron has been made on different occaſions with a view

* In a Panopticon which required apartments of greater width than could conveniently be given to arches, ſome of the other modes of ſecuring buildings againſt fire might be adopted: ſuch as that of ſtopping the draught of air by iron plates, upon Mr. Hartley's plan: or by ſimple plaiſtering, upon Earl Stanhope's. Such ſuperior width might be neceſſary in ſome manufactories: nor would it be incongruous to the object of the inſtitution, where ſecluſion was out of the queſtion, as in free Manufactories and Poor-houſes.

to

to different advantages. Sometimes to admitt air, ſometimes to ſave room, ſometimes for the ſake of ſtrength. In all inſtances it has the advantage of being peculiarly impregnable to putrid contagion: even plaiſter, brick and ſtone not being in this reſpect altogether above reproach. Hence the great ſtreſs laid on frequent white-waſhing, wherever any of the three latter materials are employed.

It is partly on account of the admiſſion it gives to air that I prefer it for both the Priſoners' Staircaſes, and for all their Galleries. In arched Galleries of brick or ſtone, beſides that they would take up room, the air might be apt to ſtagnate. Subſtituting open-work to ſuch cloſe materials adds in effect ſo much in width to the Annular-Well. The interſtices between the bars inſtead of forming an obſtruction to a current of air, ſerve rather to accelerate it.

It was the conſideration of the little room taken up by this material that ſuggeſted it to me as peculiarly well adapted to the purpoſe of affording ſupports to the Chapel. Brick pillars, of the thickneſs neceſſary to ſupport ſo lofty a building, would afford a very material obſtruction to the voice in its paſſage from the Miniſter to the Priſoners, when ſtationed in their Cells, or in the Galleries before their

their Cells. It is on the ſame conſideration likewiſe that I propoſe to make conſiderable uſe of it in the conſtruction of the Inſpection-Galleries. It is to obtain both theſe advantages that I make uſe of no other material for one entire boundary (viz. the interior one oppoſite the windows) of every Cell.

To obtain that ſort of ſtrength which conſiſts in inflexibility, with leſs unweildineſs and at a leſs expence of materials, it occurred to me to make the pillars hollow. Being of iron, they may thus be made not only to take up beyond compariſon leſs room, but even to poſſeſs greater ſtrength, even when hollowed to ſuch a degree as not to exceed brick or ſtone in weight. It occurred to me that iron was caſt in large maſſes to ſerve for water-pipes. Upon enquiry at a great foundery where it is caſt for ſuch purpoſes, I learnt that in that manufactory it could be caſt hollow for a length of 12 foot, but no more. Upon conſulting with my profeſſional adviſer, I was informed that that length could be made to ſuffice: and it occurred to him that of the eight ſupports which would be a ſufficient number for ſuch a building, ſome might be made to anſwer the purpoſe of water-pipes for conveying the water from the roof: and to me that others of them might be made to ſerve for chimneys: articles for which

it

it might otherwiſe be not altogether eaſy in a building of ſo peculiar a conſtruction to find a convenient place.

In point of economy I hope to find this uſeful material not more expenſive, but rather leſs ſo than the quantity of ſtone or brick-work that would be requiſite to anſwer the ſame purpoſe.* Since caſt-iron, and in moſt inſtances, even that not of the fineſt quality, would anſwer as well as hammered with half the expence.

It is at the recommendation of the ſame intelligent artiſt that I adopt thoſe called ſtucco or *plaiſter floors*, in preference to any other: and this for a variety of reaſons.

1. They are incombuſtible. In this reſpect they have the advantage of wooden floors.

2 They take up very little room. The thickneſs of 1½ inch over the brick-work at the crown is ſufficient. In this point they have the advantage over all other floors, and moſt of all over wood, which beſides boards require joiſts to lay them on.

3. They are uniform without crevices or interſtices. In this reſpect they have alſo the advan-

* In Hughes's Riding Amphitheatre, near London, the ſupports, I am told, are of iron ſilvered.

tage

tage over all other floors: in the higheſt degree over brick, then over wood, and even over ſtone. The inconvenience of crevices and interſtices, as well remarked by Mr. Howard, is to harbour dirt, and occaſionally putreſcent matter, capable of fouling the air, and affording ill ſcents.

4. They are cheap. When thus thinly laid, much cheaper than wood, or ſtone, or even than any choice kind of brick, ſuch as clinkers: and full as cheap as any tiling that would be proper for the purpoſe.

5. They are, it is true, liable to crack: eſpecially on the firſt ſettling of the building. On the other hand, if a crack takes place, they are eaſily and effectually repaired.

Mr. Howard lays great ſtreſs on the unwholeſomeneſs of ſuch floors, as by their roughneſs, ſuch as unplained boards, or by numerous and wide interſtices, are apt to harbour putreſcent matter: but I know not that he any where recommends plaiſter floors, which are freer than any ordinary floors from that inconvenience.

§ 20. *OUTLETS.*

§ 20. *OUTLETS,*

Including Airing-Yards.

ARE *Airing-Yards* to be looked upon as a neceſſary appendage to the building?—If ſo, what *extent* ought to be given to them?—Ought any and what *diviſions* to be made in them correſponding to ſo many diviſions among the priſoners? In what manner may the influence of the inſpection-principle be extended to them to the beſt advantage?—The anſwers to theſe queſtions will depend partly upon the general plan of management in view, partly upon local circumſtances.

Of theſe points the firſt and third are conſidered under the head of management:* and the reſult is, that Airing-Yards to be uſed on working-days are not eſſential to the eſtabliſhment: but that for Sunday's uſe they would be at leaſt convenient: that if both ſexes are admitted, one diviſion, and conſequently two ſeparate yards are indiſpenſable: but that, as between priſoners of the ſame ſex, the

* See the ſections on *Employment*, *Airing*, and *Schooling*.

ſame

advantage to be gained by any further diviſion ſeems hardly decided enough to warrant the expence.*

Whatever be the extent of the Airing-ground, and whatever the number of diviſions made in it, two erections muſt at any rate be made in it, in order to extend to theſe exterior appendages the all vivifying influence of the commanding principle: 1. A *Look-out* or *Exterior Inſpection-Lodge:* 2. A line of communication for Priſoners as well as Inſpectors, between this Look-out and the building. Let the Look-out then be conſidered as occupying the center of a circle: of this circle the line of communication forms one radius: from the ſame center may be projected as *co-radii* walls in any number correſponding to the number of diviſions pitched upon.* See plate III.

* The numerous Yards in Plate III. are given only by way of illuſtration, and to ſhew upon what principles the topographical diviſion, were it to be judged neceſſary, might be performed to moſt advantage.

* In the magazine of expedients the moſt ſimple is ſeldom that which firſt preſents itſelf to our ſearch. In the firſt haſty deſign, as ſketched out in the Letters, it was by a ſurrounding Gallery that the influence of the inſpection principle was to have been extended to uncovered Areas: and this Gallery was to have been attach-

In ſection 16 we left the line of communication at the ſpot at which, having cleared the building, it cuts acroſs the external Annular Area. But at this ſpot it is conſiderably below the level of the ground in the yards through which it leads. The ſurface of the ground I ſuppoſe exactly on a level with the floor of the lowermoſt ſtory of Cells: which floor is 7 : 6 above the level of the Intermediate Area. The floor of the priſoners' paſſages, being 10 inches below the level of that Area, has 8: 4 to riſe before it comes to a level with the ſurface of the ground. That of the Inſpector's paſſage, being 5 inches above the level of the ſame Area, has conſequently but 7 : 1 to riſe before it comes to a level with the ground. But in the ſtraits under the Arch we gave the Inſpector the advantage in point of ground over the Priſoners to the amount of 1 : 3: and for this advantage there is the ſame occaſion in one part of the line of com-

ed to the ſurrounding wall. The advantages of centrality were thus thrown away without neceſſi y, and without any advantage in return. In point of expence the diſadvantage might be more, and could not be leſs, than in the proportion of a circumference to a ſemi-diameter—about ſix to one: and the Galleries would have diminiſhed in effect, to the amount of their height, the height of the wall to which they were attached.

munication

munication as in another. Adding therefore this riſe to that of 7 : 1 which the floor of the Inſpector's paſſage has to make in order to reach the level of the ground, we have 8 : 4, which is the ſame riſe as that given to the Priſoners' paſſages. In this way the two floors preſerve their paralleliſm during the whole of their courſe.

The particulars of this courſe may be thus made out——

Priſoners' paſſage on each ſide—Lengths—

	f.	*in.*
Exterior landing-place from the outſide of the wall of the building to the commencement of the flight of ſteps which may be called the *Priſoners' Riſing-ſtairs.*	2	0
Priſoners' emerging or riſing ſtairs, from the exterior landing-place to the *Priſoners' Bridge.* —— ——	8	4
Priſoners' Bridge from the Priſoners' riſing ſteps to the *Priſoners'-Lanes*, running parallel to the Inſpector's *Covered-way*, on the ſurface of the ground through the yards. —— —— ——	1	8

Underneath this flight of ſteps there is ample room left in the exterior Annular Area as well for paſſing as for conveying goods. Before it has advanced in length to within four feet of the wall

bounding the External Area, it is more than 6 foot above the level of that Area in that part: and at the ſurrounding wall, 9 foot.*

Inſpector's Paſſage between the Priſoners' paſſages —— Lengths—

The ſame as above: the difference, which is only in point of level, being the ſame throughout, except that in this paſſage the flight of ſteps gaining the level to which they lead a little earlier than in the Priſoners' paſſage, the *Inſpector's-Bridge*† is a few inches longer than that of the Priſoners.

As to the floor of the Priſoners' Riſing-ſtairs, iron ſeems preferable, partly for the reaſons which plead in general in favour of that material, partly on account of the ſmall degree of thickneſs it requires. A wooden floor, or a brick floor ſupported upon an arch, might reduce the height above the floor of the Exterior Well to ſuch a degree, as to make it neceſſary either to ſink the floor of the Well in that part ſtill more, or to increaſe the width.‡

* This comes from the pavement of the Exterior Area being ſunk in that part 1 : 6 below the level of the Internal.

† To diſtinguiſh it from that within the building, I call this the *Inſpector's Outer Bridge.*

‡ The roof of the line of communication, as it emerges from the building, affords a landing place to the windows of the Cells immediately above, by which the priſoners, could they get out of the

From their emerſion out of the building the three paſſages ſhould be covered through the whole length of their courſe acroſs the External Area: that of the Inſpector, for the ſake of obſcurity, as well as for the ſake of protection in bad weather: the two Priſoners' paſſages on each ſide, partly for the latter reaſon, but principally to cut off converſe with the Cells immediately above: for which reaſon they muſt alſo have a back reaching up all the way to the roof, ſo as to form a compleat caſe.

the windows, might at night-time find their way into the Yards, and be ſo far on their way to an eſcape. To obviate this danger, it is evident that the gratings to theſe windows ought to be conſtructed with a degree of cautiouſion, which would not be equally neceſſary in any other part of the circuit.

It would be tedious to particularize in this manner every little weak ſpot which the details of ſuch a building may diſcloſe. Wherever they preſent themſelves, the weakneſs will not be more obvious than the means of remedying it.

The Cell immediately over the Straits loſes, it will be obſerved, a conſiderable ſhare of its light, partly by means of the Inſpector's Bridge within ſide the building, partly by means of the whole line of communication on the outſide. Many employments might be mentioned for which the degree of light remaining after theſe defalcations, would probably be inſufficient: but as employments are not wanting for which it would certainly be ſufficient, the deficiency affords no reaſon for conſidering this Cell as loſt to the purpoſe of habitation.

When the Priſoners have got the length of the Lanes, or of the yards on each ſide, that is at the leaſt near 13 foot diſtance from the building, the interception of converſe muſt, as it ſafely may, be truſted to the expedients employed for preventing thoſe in the Cells from looking out of their windows.

When the Priſoners are a few feet advanced beyond the External Area, they come to a *Door*, which lets out upon the open ground ſuch of them as belong to the two yards immediately contiguous on each ſide: ſince it would be uſeleſs to carry them on to the Look-out, only to return them from thence into thoſe yards. If there are no more diviſions, no more yards, than theſe two, here the Priſoners' Lanes terminate: if there are other yards, the lanes lead on till they terminate in the common Central Yard encompaſſing the Look-out. The Inſpector at any rate has his door correſponding in ſituation to thoſe juſt mentioned.

The *Central-yard* is a circular or rather Annular Yard, encompaſſing the Look-out. It ſerves for the diſcharge of the different claſſes of perſons into their reſpective yards. That the individuals thus meant to be kept ſeparate may not have it in their power to ſtraggle into the Central Yard and there meet,

meet, the entrances into their ſeveral yards are cloſed by gates or doors. Leſt by a mutual approach towards their reſpective doors, they ſhould obtain an opportunity of converſe, the doors are placed, not in the circumference where the walls terminate, but in a ſet of ſhort Partition-walls joining the reſpective walls at a little diſtance from the ends: the intermediate portion anſwering the purpoſes of the Protracted Partitions ſpoken of in Letter II. in the firſt rough ſketch of the building. A wall, carried through the Central Yard ſo as to join the Look-out, perfects the ſeparation between the male and female ſide.*

Near to the lateral doors opening from the Covered way on each ſide, will be the ſituations for the *Airing-Wheels*:† the numbers and exact ſituations of which will depend on local circumſtances, and on the details of the plan of management purſued.

Hereabouts too might be the *Temperate Baths*, or *Bathing Baſons*, in which Priſoners might at ſtated hours be obliged to waſh themſelves. By means of a ſlight awning theſe baths might eaſily be concealed from the view of the Priſoners in the build-

* N. B. This protracted ſeparation-wall is not repreſented in the Draught.

† See the ſection on *Airing*.

ing, while they were fully expoſed to the obſervation of an Inſpector, (or according to the ſex an Inſpectrix) from the Look-out.

Made long rather than circular, they would be the better adapted to the purpoſe of enforcing ſuch a continuance in this ſtate of diſcipline as ſhould be deemed expedient. The Priſoner being required to paſs through from one end to the other, the number of traverſes would thus afford as exact a meaſure as could be wiſhed for, of the degree of diſcipline to which it were propoſed to ſubject him.

Of the conſtruction of the *Look-out* it ſeems hardly neceſſary to attempt a minute deſcription. It ſhould be polygonal, that form being cheaper than the circular. It might be an octagon: or, were the number of the Airing-yards definitively fixed, the number of its ſides might be the ſame with that of the Yards, the walls of thoſe diviſions correſponding to the angles of the building. The fitteſt form and ſize for it would vary according to local circumſtances and the plan of management. The precautions relative to the *thorough light* need not here be ſo ſtrict as in the priſon, the greater diſtance rendering the figure when obſcured by blinds more difficultly diſcernible: and the obſcurity would be

be farther favoured by heightening the elevation. Experiment would eaſily ſhow what ſort and thickneſs of blind was beſt adapted to the purpoſe. If a ſtrict inſpection be required, the Inſpection-Lantern already deſcribed would furniſh a proper model: if a looſer were deemed ſufficient, a room employed as a work-ſhop in ſome ſedentary trade, ſuch as that of a taylor or ſhoe-maker, might anſwer the purpoſe. In the capacity of apprentices or journeymen, he might have a few of the moſt orderly and truſt-worthy among the Priſoners. On working days, according to the plan of management here propoſed, he would have nobody to inſpect but ſuch of the Priſoners as were occupied for the time being in walking in the wheels: at that time he would of courſe front that way as he ſat, and a caſual glance ſtolen now and then from his work would anſwer every purpoſe. It is on Sundays, and on Sundays alone that the Priſoners in general would be at certain hours in the yards: and during thoſe periods he might give his whole time and attention to the buſineſs of inſpection, as it would then be is only occupation.

A male and female Inſpector might here alſo be ſtationed under one roof: whoſe inſpection might, by the means explained in another place, be

be confined to their reſpective diviſions. This junction and ſeparation would of courſe be neceſſary, if a bath for females were placed near the Walking-wheel on that ſide.

As to the degree of ſpaciouſneſs to be given to the Yards—in a general ſketch which has no individual object in view, to ſpecify demenſions will be ſeen to be impoſſible: principles with illuſtrations are the utmoſt that can be expected.

The objects to be attended to are, on the one ſide, *room* and *ventilation:* on the other *facility* of *inſpection*, and *cheapneſs*.

To eſtimate what may be neceſſary for room, it would be neceſſary firſt to ſettle the operations that are to be carried on in the Yards, and the articles that are to be placed in them: Such are

1. Airing-wheels: enough for ſupplying water to the building. See ſection on *Airing*.

2. Additional number of Airing-wheels: in the whole, a wheel (ſay) to every 18 perſons, or a proportionable number of double, treble, or quadruple wheels. I call the wheel a ſingle, double, treble one, &c. with reference to the number of perſons that are to be ſet to walk in it at once.

3. Machines

3. Machines to be kept in motion by ſuch ſupernumerary Airing-wheels.

4. Bathing-baſons, one or two according to the ſexes.

5. Open ſchools, for Sunday's ſchooling. See the ſection on *Schooling*.

6. Walking or marching-parade for Sunday's exerciſe.

As to ventilation, though a diſtant object, it is one that will hardly require a diſtinct proviſion. A ſpace that affords room enough for the walking-parade can ſcarcely be deficient in point of airineſs.

In ventilation much depends upon the form of the ground. A declivity is in this point of view preferable by far to a dead flat. Place the building upon a riſing ground, the wall though a high one may be but little or not at all higher than the ſurface of the ground is for ſome diſtance round the building. So far as this is the caſe, ſo far the walls afford no obſtruction at all to the current of air.

But even in a dead flat, there ſeems little neceſſity for beſtowing any expence, in giving on this ſcore any addition to the quantity of ſpace abſolutely neceſſary for the marching exerciſe above alluded

alluded to. Noxious trades out of the queſtion, the only imaginable ſources of contamination to which the air is expoſed are *putridity* and *reſpiration*. Againſt the former, ſufficient ſecurity may be afforded by the diſcipline of the priſon:—no hogs; no poultry; no dunghill; no open drain; no ſtagnant water. As to mere reſpiration, it can ſcarcely be conſidered as capable of producing the effect to a degree worth notice, in a place ever ſo little wider than a water-well, if open to the ſky.

As to facility of inſpection, it is obvious that the longer you make your Airing-yard, the leſs diſtinct the view which the Inſpector will have of a Priſoner at the further end of it. But the conſideration of the expence will be ſufficient to put a ſtop to the extenſion of this ſpace, long enough before it has acquired length ſufficient to prejudice the view.

In ſpeaking of the *expence*, I do not mean that of the ground: for that, every where but in a town, will be of little moment: but the expence of the walls. I ſpeak not merely of the ſurrounding wall: for, whatever be the height of that wall, the ſeparation-walls, if there are any, cannot, as we ſhall ſee, have leſs. For the ſurrounding wall, according to the common plans at leaſt, no ordinary height

height will ſuffice. But, by doubling the height of your wall, you much more than double the expence: ſince if you would have it ſtand, you muſt give it a proportionable increaſe of thickneſs.

The height of the ſeparation-walls I have ſaid, muſt not be leſs than that of the ſurrounding-wall—why? becauſe if the former join on to the latter, they muſt be of the ſame height, or whatever height is given to the ſurrounding wall is ſo much thrown away. The attempt, if any, will of courſe be made at that part where the wall is loweſt, which will ſerve as a ſtep to any part which riſes above it. Let a wall of 12 foot be joined by another of 6 foot: what is the obſtacle to be ſurmounted? Not one wall of 12 foot, but two walls of 6 foot each. In fortification, the ſtrength of the whole is to be computed, not from the ſtrength of the ſtrongeſt part, but from that of the weakeſt.

That the ſeparation-walls ſhould join the ſurrounding-wall, is not indeed abſolutely neceſſary: but whether the diſcontinuance could in any inſtance be made productive of any ſaving upon the whole, ſeems rather queſtionable. They may indeed be left ſhort of it to a certain diſtance: the gap being ſupplied by a ditch: to which the perſons meant to be

be ſeparated on each ſide, may be prevented from approaching near enough for the purpoſe of converſe, by a palliſade, which may be a very ſlight one, being intended rather to mark tranſgreſſion than to prevent it. In the day time there will be no poſſibility of approaching the ditch without detection, ſince it will be full in view: at night there will be no motive, as there will be no perſons on the other ſide to hold converſe with—no Priſoners in the yards. The ditch itſelf need not be continued far on each ſide of the wall: but the palliſade muſt be continued all along: for if it were to terminate any where it would be uſeleſs, and if it were to join the wall any where it would take ſo much from the height. But the palliſade however ſlight would coſt ſomething: and, what is more material, the ſpace between that and the wall would be ſo much ſacrificed: and the greater the ſpace, the more extenſive, and conſequently more expenſive, muſt be the wall. If therefore the ſurrounding wall ſhould not riſe much above the height, which for the purpoſe of preventing converſe it would be neceſſary to give to the ſeparation-walls, reducing the height of the latter by the help of the above expedient would not be worth the while.

But

But although no ſaving ſhould be to be made in the height of the ſeparation-walls, this is not the caſe with regard to ſuch part of the general ſurrounding wall as is not acceſſible to the priſoners. What part that may be will be immediately conceived by turning to the Draught.—See Plate III. In a line with the Projecting front, continue the wall of the building on each ſide till it meets the two lateral of the four ſurrounding walls. To this wall, and to every wall that is behind it, muſt be given the ſame extra height, whatever that be. But, to whatever walling there is *before* it, no greater height need be given, than if there were no ſuch thing as a priſon in the caſe.

Thus much, ſuppoſing the neceſſity of high walls and multiplied diviſions. But, if my ideas be juſt, both thoſe articles of expence may be ſaved: the former, by the mechanical regularity of the airing diſcipline:—See the ſection on *Airing*.—the other, by the mode of guarding.—See the next ſection.*

* It may be thought, that the Walls here ſpoken of as not requiring any extra height might be omitted altogether. But, beſides that they will be convenient for the incloſing of offices and officer's gardens, they are eſſential to the plan of guarding. For on conſidering the centinel's paths, it will be eaſily ſeen that it

is

The leſs the ſpace is between the Look-out and that one of the four ſurrounding walls that runs at right angles to the direction of the Covered way, the nearer the two radii drawn towards the ends of ſuch a wall will of courſe approach to parallel-iſm. Direct them ſo as to terminate, not in the oppoſite wall, but in the two lateral walls that join it at right angles, and you have a long ſpace, which without departing from the inſpection principle

is neceſſary they ſhould be regular, and that one of them ſhould paſs by the Approach. Add to this that the contrivance of the Approach ſuppoſes a wall all round, to ſerve as a barrier againſt a hoſtile mob.

One Wall indeed, which really is not only unneceſſary but prejudicial, may be diſcovered on the Draught: into which it was inſerted without ſpecial inſtructions, as a thing of courſe, and ſuffered to continue through inadvertence.

It is that which runs parallel to, and between, the wall through which the entrance is cut, and that which forms on each ſide a continuation of the Projecting Front. A fence in that part is indeed neceſſary: but inſtead of a cloſe wall it ought to be an open palliſade.

The former, in contradiſtinction to the latter, weakens the *command* of the building over the ſpace incloſed, and that as well in a military ſenſe, as in point of inſpective force. Suppoſe a mob to have maſtered the wall on either ſide the entrance, an open palliſade expoſes them to the ground floor of the building, whereas a cloſe wall covers them.

might

might, if the employment presented any adequate advantage, be converted into a *Rope-yard.*

Why introduce here the mention of Rope-making? Is it that I myself have any predilection for that business? By no means: but others it seems have. My first care is on every occasion to point out that course which to me appears the best: my next is to make the best of whatever may chance to be preferred by those whose province is to it choose. To a gentleman whose information and advice upon this occasion particular attention appears to have been paid by a Committee of the House of Commons,* to this gentleman it occurred that rope-making was of all trades one of the best adapted to the economy of a Penitentiary-House. Of the many advantageous properties he attributes to it a considerable number may, for ought I know, belong to it without dispute. But in one instance at least, his zeal has got the better of his recollection. In rope-making "no implement employed that can contribute to escapes?"—To a seaman a rope is itself a Staircase. Will any charitable hand take charge of it on the other side of the wall? over goes the rope one instant——the next, over

* See Report of the Felon Committee printed in 1779.

goes the ſailor.* And can no other hand ſupport itſelf by a rope? Was La Tude a ſeaman? Will the walls of a Penitentiary-Houſe be like the walls of the Baſtile?—A vigorous arm will ſupply the place of practice. I ſpeak but what I have ſeen.

Rope-making is perhaps of all trades known that which takes up the greateſt ſpace. Elſewhere it requires no walls: but here it muſt not only have walls, but thoſe too of an extra height and thickneſs.

With all this, ſhould any rope-making legiſlator, or any legiſlator's rope-making friend, make a point of it, in a Panopticon Penitentiary-Houſe, I would even admitt a ropery. But in what character? as one of the moſt——no: but as one of the leaſt promiſing of all trades. I would admitt it—not certainly in the view of favouring, but rather of trying the ſtrength and temper, and diſplaying the excellence of my inſtrument. I would take my razor and hack ſtones with it: not as thinking ſtone-cutting the fitteſt employment for razors in general, but in the way of bravado, to ſhew that

* Even without an aſſociate, a rope, by the help of a brickbat faſtened to the end of it, will, I have been aſſured, carry a man over a wall.

my

my razor can perform what in ancient lore ſtands recorded as a miracle for razors. I would provide part of my priſoners with this gentleman's ropes, I would arm another part with another gentleman's ſledge-hammers, a third part with another gentleman's caſt iron—a fourth with a fourth gentleman's ſaws, taking my chance for my felons ſerving their keepers as the childrenof Iſrael ſerved the Ammonites.—For what?—For ſecurity ſake?—No: but juſt as I would ſet up a ſword-cutlery, or a gun-manufactory with a powder-mill attached to it; if any gentleman would ſhew me ſuch a meaſure of extra-profit attached to thoſe trades, as ſhould more than compenſate the extra-riſk, and the extra-expence of guarding and inſurance.

Proteſting therefore againſt this of rope-making as one of the leaſt eligible of trades for any other priſon, I would not, by any peremptory reſolution, exclude even this from a Panopticon Penitentiary-Houſe. Let Euriſtheus ſpeak the word, and I will turn in ſerpents to my infant in its very cradle.—Why?—Is it that ſerpents are the beſt nurſes?——No: but becauſe my infant is an Hercules.

Recapitulation of the horizontal lengths of the ſeveral component parts of the line of commuinca-tion between the lowermoſt Inſpection-Gallery within the building and the Look-out in the Yards.

I. *Inſpector's Paſſage.*

1. Inſpector's *Inner-Bridge* (over the Intermediate Area.) —— 8
2. Inſpector's *Drop* (within the circle of the Grated Paſſage.) —— 2
3. Inſpector's *Inner Landing-place* (within the ſame circle.) — — 2
4. Inſpector's *Straits* (paſſage through the ſubterraneous Arch under the Cells.) 17
5. Inſpector's *Outer-Landing-place*, from the termination of the Arch to the commencement of the *Riſing Stairs.* —— 2
6. Inſpector's *Riſing-Stairs*, from the exterior Annular Area to a little above the level of the ground. —— —— 8
7. Inſpector's *Outer-Bridge* (over the remainder of the above Area) about — 2

41

8. Inſpector's

8. Inſpector's Covered-way } Undeterminable depending on the magnitude of the eſtabliſhment and other local circumſtances.
9. Steps up to the Look-out }

II. *Priſoners' Paſſages on each ſide.*

1. Priſoners' Straits	—	—	17
2. Priſoners' Landing-place		—	2
3. Priſoners' Riſing-Stairs	—	—	8
4. Priſoners' Bridge, about	—	—	2
			29

5. Priſoners' Lanes } Undeterminable, for the ſame reaſon.

The Figure annexed repreſents an

AIRING, OR MARCHING PARADE.

It ſerves to ſhew how a given number of Men may be aired by walking, in the leaſt poſſible ſpace, without infringement on the Plan of Separation.

			feet.
Length of the Parade, ſay	—	—	150
Width	— — — —		96

Number of feet in each walk — —	6	
Multiplied by the number of parallel walks in the above width — —	6	
Gives the number of feet occupied by the walks in the above width — — —		36
Number of feet of vacant interval between walk and walk — — —	12	
Multiplied by the number of intervals in the above width — — —	5	
Gives the total number of feet of vacancy in the above width — — —		60
Sum of the widths of the walks added to that of the intervals gives the total width as above —		96

Number of feet of interval between line and line in the ſame walk, ſay — —		6

Number of lines capable of being contained on the above conditions in an area of the above dimenſions, in the manner repreſented in the figure — —	146	
Multiplied by the average number of men in a line — — —	3	
Gives the total number of men that may be aired by marching on a parade of the above dimenſions, without approaching nearer than as above —		438

Each Cell is ſuppoſed to occupy a diſtinct line: the numbers in a line being 1, 2, 3, or 4.

The number annexed to each line ſhews the ſtation occupied by each Cell when the figure is compleated.

The lines might be marked out by double rows of clinkers: the track of each man by a ſingle row: and the walks, if neceſſary, by ſtakes and ropes.

At every turning the outermoſt man at one or other ſide turns a quarter-round, as in the military exerciſe, where his comrades on the ſame line, by a ſhort run, gain the new line. Thus the exerciſe of running is combined with that of walking.

The number annexed to each line ſhews the ſtation occupied by the inhabitants of each Cell when the figure is compleated.

Entrance

This plan being deſigned merely for illuſtration, it was not thought worth while to beſtow the pains that would have been neceſſary to give it a thorough diſcuſſion, and clear it altogether from the imperfections that may at obſerved in it. From this example it will be eaſy to accommodate the line of march to the form of the ground: giving it the radial figure, and making the entrance from the Central Yard. The walks would in that caſe diverge from one another in pairs at the fartheſt extremity, like fingers on a hand. But the greater the divergence, the more ſpace will, it is evident, be conſumed in waſte.

The wheels, which on ſix days ſerve for gain as well as air and exerciſe, would there be any objection to their ſerving on the ſeventh for air and exerciſe without gain? If not, then even the walking-parade, with the expence of the walls with which it muſt be ſurrounded, might be ſtruck out as ſuperfluous.

The queſtion would be particularly material in a town, where not only the expence of the walling might be grudged, but the ground itſelf might be unobtainable.

In ſuch a ſituation, if the wheel-exerciſe were thought improper for Sundays, even the roof of the

the building, might, if made flat on purpoſe, be made to anſwer the purpoſe of a marching parade: only in this caſe the ſpace not being ſufficient to air the whole number of priſoners at once, without breaking in upon the plan of ſeparation, the half only or the third part can partake of the exerciſe at a time.

The ſame ſituation might, with like management, be made to ſerve likewiſe for the Schools, propoſed to be held whenever weather will permitt, in the open air on Sundays. See the ſection on *Schooling*.

§ 21. *APPROACH AND FENCES.*

IN the contrivance of the Fences I had of courſe two claſſes of perſons in view: the priſoners within; and hoſtile mobs, or ſuch individuals as might be diſpoſed to form plans or join in plots for the eſcape of priſoners without. To theſe were added, in the contrivance of the Approach, the ſubordinate Keepers, as likewiſe, though with a different view, the Chapel Viſitors. While the government or corecion of the firſt three of theſe four deſcriptions of perſons was to be provided for, the accommodation of the laſt, thoſe ſtill better than gratuitous Inſpectors, who, inſtead of being paid for inſpecting, may be content to pay for it, muſt not be neglected.

The Approach, I make *one* only: a walled avenue cut through and from the ſurrounding wall to the front of the building, thrown back purpoſely to a certain diſtance: ſay, for example only, 240 foot: twice the diameter of the polygonal part of the building neglecting the Projecting Front. The

aperture

aperture thus made is closed by a set of *Gates*: a small one close to the *Porter's Lodge*, for foot passengers: next to that a larger one, for carriages to go in at, and beyond it one of the same size as the second, for carriages to return by. At the very entrance the avenue is contracted as much as it can be consistently with the abovementioned purposes: it grows gradually wider and wider as it approaches the building: arrived at a distance equal to the breadth of the Projecting front it stops short. Conceive a square having this front for one of its sides. In the opposite side, the walls that bound the avenue terminate. In the same line terminate two walls or other fences, which issuing at right angles from the front, bound the two remaining sides of the square. The avenue, though gradually expanded from the entrance to the spot where it falls into the square, wants on each side some feet of occupying the whole width. That interval is filled up on each side by a pair of *gates*, which, being of open work, afford to the building access to and view of the spaces on each side the avenue; designed partly and principally for containing offices, and affording small gardens to the officers. In the center of the square stands a *Lamp-post*, or some such object, serving as a direction to carriages in turning: and from this central

central mark to the pier between the two gates acroſs the entrance, it might perhaps be found convenient at Chapel-times to keep a ſtrained rope or chain, for the purpoſe of ſeparating the path of the returning from that of the approaching vehicles; thus obviating the confuſion which without ſuch precaution is apt to ariſe in a throng of carriages.

The public road runs, according to local circumſtances, either in the ſame direction with the avenue; or elſe at right angles to it, and parallel to the wall cut through to form the Approach. No public highway, either carriage road or foot-path, runs near to it in any other quarter.

Parallel to the Gates, and to the extent of the Gates, the road is bounded on the other ſide by a wall, which may be called the *Protection-Wall*: and behind it a branch of the road, which may be called the *Protection-Road*.

Why only one Approach to ſo large a building?

1. For the ſake of *economy*:——the more Approaches the more Porters.

2. For the ſake of *ſafe-cuſtody* and *ſubordination*: the more exits the more places to watch, and the greater the danger of eſcape. And were there more exits than one, all would not be equally under

der the view of the Head-Governor. What if he and the next in authority under him, had each a ſeparate exit under his care?—The inſpective force would be diminiſhed by one half: on the one ſide the ſubordinate would be withdrawn from under the controul of his principal; on the other, the principal would loſe the aſſiſtance of the ſubordinate.

2. *Why throw the building back in this manner and place it in a receſs, rather than cloſe to the road, and fluſh with the ſurrounding wall?*

For *ſecurity*, and that in the firſt place againſt enterprizes from within. Suppoſe a Priſoner by permiſſion, or by negligence, got out and landed at the front of the building: on this plan what chance has he gained of an opportunity of eſcape? He is incloſed in a defile, with the building at one end and the gates that open to it on the other: expoſed on one ſide to the whole view of the front, and on the other to that of the Gate-keeper, without whoſe concurrence the gates can afford him no exit: and the priſon habit betraying him to both. On the other hand, ſuppoſe a part of the building to have doors or windows opening to the highway: let a man but have got through any one of thoſe apertures, he finds himſelf at large. What though the part thus bordered by the road ſhould be no

part

part of the place deſigned for Priſoners, but only of the houſe or lodging of one of the officers, the Governor for example? Such places may not be always inacceſſible to the Priſoners, at leaſt to all of them. A Priſoner may be there by permiſſion, engaged in ſome domeſtic employment: he may have ſtepped in thither on ſome pretence: he may have been let in on purpoſe by the infidelity of ſome ſervant of the houſe. Should even the Priſoners be all of one ſex, there may be ſervants of the other. Of a priſon ſo circumſtanced, where is the part than can be ſure of being always proof againſt the united aſſaults of Cupid's arrows and Danae's golden ſhower?

2. Againſt clandeſtine enterpriſes from without. What enterprizes of this nature can be attempted with the ſmalleſt proſpect of ſucceſs? Without procuring the door to be opened by the Porter a man cannot paſs the gate: he is then incloſed in a defile as before, reconnoitred all the while from the Lodge at one end, and the building at the other. The Gate which lets him in, might in the act of opening it, and without any attention on the part of the Porter, ring a warning-bell proclaiming the ſtranger's entrance and approach.

3. Againſt

3. Againſt hoſtile enterprizes by mobs. The enterprizes of mobs cannot, like the attempts of individuals, be ſudden and ſecret: they have always a known cauſe. The guards are every where upon the watch.—Is miſchief threatened? The Porter rings his bell. A centinel fires his piece. The force of the priſon is collected in the front. What mob will make any attempt againſt the gates? No ſooner have they begun, than they find themſelves expoſed to the fire of the whole front: that front more than twice the breadth of the ſpace they occupy, and converging thither as to a point. There needs no riot-act: the *Riot-act* has been read by the firſt man who has forced himſelf within the gates. The line is compleatly drawn beyond all power of miſtake: all within it are malefactors. The avenue is no public highway. It is the private incloſure of the Keeper of the Priſon: thoſe who force themſelves within it do ſo at their peril.

In the ordinary ſtate of priſon-building, all preparations for an attack, every thing ſhort of the actual attempt, may be carried on without moleſtation under the Keeper's noſe. The rioters collect together in force, in what numbers they think proper, and with what arms they can procure. What

What ſhall hinder, or who ſhall ſo much as queſtion them? It is the King's highway: one man has as much right there as another. Let them have what arms they will, ſtill who ſhall queſtion them? Every man has a right to carry arms; till ſome overt act demonſtrates his intention of employing them to a forbidden purpoſe.—Obſerve now the conſequences.—The walls of the Priſon are impregnable; its doors well fortified; windows looking to the highway it has none. But the Keeper's doors are like other doors: his windows, like other windows. A bar or a log will force the one: a ſtone or puſh will lay open the other. Where the Keeper enters, there may the rioters enter, and there may the Priſoners get out, when they are in the Keeper's place. The cuckoo is completly hedged in, except at one place which is not thought of.

At Newgate the building, including the Keeper's houſe, runs along the public footway: and the fate of that edifice at the diſgraceful æra of 1780 diſplays the conſequence. No impediment does it preſent, natural or legal, that can hinder any ſingle man, or any body of men, from introducing their eyes or hands cloſe to the Keeper's windows. A little army may come up with clubs and iron

crows

crows to the very door ready to force it open, and till the attack is actually begun, there is neither right nor obſtacle to impede, much leſs power to hinder them.

All the other priſons in London, that I recollect, the King's Bench amongſt the reſt, are in the ſame predicament. Had the contrary precaution been obſerved, the tragedy of St. George's fields would hardly have been acted. The ill-fated youth, whoſe death drew forth in its day ſuch a torrent of popular diſcontent, would not have fallen, or his fall would have been acknowledged to have been not undeſerved.

In a great town, the ground may not always admit of giving the remedy its full extent: though to a certain extent, and that ſufficient to give a vaſt advantage over the common plans, it might be made uſe of almoſt every where.

Even Mr. Howard's plan, though uncircumſcribed by any conſiderations of local neceſſity, even Mr. Howard's plan of perfection in the abſtract, has overlooked it. The piles of building allotted to the convicts are indeed placed all of them within, and at a diſtance from, the ſurrounding wall: but lodges for Porters, a houſe for a Chaplain, and another for a Steward or Storekeeper, form part of it.

Along

Along ſide, for any thing that appears, runs the public way: nor is there any thing to hinder a mob of rioters from forcing themſelves in at the Chaplain's and the Steward's door and windows, till the outrage is begun.

Thus it ſtands upon the face of the engraved plan. His after-thoughts, ſo far from obviating the inconvenience in queſtion, double it. His laſt opinion is in favour of "a ſpacious walk, clear of "buildings, through the centre, with three courts "on each ſide, and the Chapel and Chaplain's "apartments at the oppoſite end, facing the Go-"vernor's own apartment."*—Is the Chaplain then to have an outlet at his end, as well as the Governor at his? This will require another pair of Lodges (for the plan gives two) and at leaſt one other Porter. At any rate the Chaplain and his family are out of the reach of lending an inſpecting eye to obſerve the approach of thoſe who come on the deſign, or with the pretence, of viſiting the Governor, his family, or his ſervants. The inſpective force at that end is *pro tanto* diminiſhed, by the removal of that conſtituent part of it.—What Mr. Howard's reaſons were for this change of opinion, he has not told us.

* On Lazarettos, p. 229.

No one can be more anxious than Mr. Howard to prevent every part of the building where priſoners are lodged from having windows to the ſtreet.—Why? Becauſe ſuch windows, beſides affording converſe, will let in ſpirituous liquors, not to mention implements for eſcape. Windows to the Governor's houſe, or the Chaplain's, will not indeed let in ſpirituous liquors, or any thing elſe into the priſon clandeſtinely, but they will let in armed deliverers openly where they are in force.

3. *The Avenue why contracted at the entrance?*—The narrower the entrance the leſs the expence of the gates which cloſe it, and the more perfectly it lies within the command of the Porter. At the ſpot where it reaches the building, were it no wider than it is at the entrance, it would ſcarce afford turning-room for carriages, much leſs the ſtanding room which would be requiſite at church-time. Were it of leſs width than the front, ſo much of the front as was excluded, ſo much of the inſpective force which that part of the building furniſhes, would be loſt.

Of the total area incloſed by the general ſurrounding wall, the magnitude muſt of courſe depend upon a variety of circumſtances, ſome of a more general, others of a local or otherwiſe parti-

cular nature. Behind the building it will be occupied by the Priſoners' Yards, of which in the laſt ſection. In front of the building on each ſide of Approach, it will be occupied by exterior offices and officers gardens.

On the outſide all round, at a ſmall diſtance, (ſay 12 foot) from the wall, runs a ſlight *paliſade* of open work. The intermediate ſpace receives four *Centinels* whoſe paths flank and croſs one another at the ends. The walls, inſtead of forming an angle, are rounded at the junctions. The paliſade will ſerve as a fence to the grounds on the other ſide: but highways on which the public in general have a right to paſs, whether carriage-ways, or ſimple foot-ways, are kept from approaching it as far as may be.

At two of the corners the place of the paliſade might be occupied by two *Guard-houſes:* each with two fronts to flank and command the two Centinel's walks. To one of theſe I ſhould give ſuch a ſituation and ſuch a height as to enable it to command the Airing-Yards: but at that quarter in which it would be at the greateſt diſtance from thoſe deſtined for the reception of female priſoners, if that ſex be admitted, it might have a Platform in that ſituation, and in that elevation,

without having any windows either way. It might have a communication with the Airing-yards, to be made uſe of in caſe of alarm and demand of ſuccour from the Keepers in the Building or the Yards. The communication might be effected in any one of ſeveral ways: by a draw-bridge, by an underground paſſage, or by a ladder kept under lock and key: the key always in the hands of the commanding officer. To prevent converſe between the ſoldiers and the priſoners, the doors opening into the Platform (for windows that way it has none) ought to be locked up, and the key kept in the ſame cuſtody. It is for this ſame reaſon that I attach it, not to the wall, but to the paliſade which is detached from the wall.

4. *Why the paliſade?*—To cut off from the public in general all facility and all pretence for approaching the wall, near enough to attack the Centinel, to hold converſe with the priſoners in the Yards, or to plant ladders or throw over ropes to enable them to eſcape.

5. *Why of open work rather than cloſe?* a wall for inſtance, or a park-pale?—For cheapneſs:—and that nobody may approach it without being ſeen.

6. *The*

6. *The Centinel's walks, why croſſing and flanking each other?*——That each Centinel may have two to check him. Who in ſuch caſe would venture or offer to bribe any one of them to connive at projects of eſcape? the connivance of any *one*, or even any *two* would be unavailing.

7. *The walls, why rounded off at the meetings?**—To avoid giving the aſſiſtance which angles afford to the operation of climbing up in the inſide. Add to which, that the greater the ſpace thus rounded off, the greater the part of each Centinel's walk, which is laid open to the view of the two others.

As to the height of the wall, and the thickneſs, which will be governed by the height, the quantum of expence neceſſary on this ſcore would depend upon the deciſion made as to the reſorting or not reſorting, to the military eſtabliſhment for a guard. With this aſſiſtance, added to that of the paliſaded walk, walls of very moderate height would be ſufficient: ſay

* For this precaution I am indebted to Mr. Blackburn. In what inſtances, if any, he has himſelf applied it, I do not know. I took the hint from a hiſtory he uſed to tell of a man who, by the aſſiſtance of two walls meeting at a right angle, and an inſtrument of his own contrivance, uſed to convey himſelf in this way over the wall of the King's-Bench Priſon in St. George's Fields.

8 or 9 foot, about 2 or 3 foot above the height of a tall man.* This height would be ſufficient to prevent any intelligible converſe between Priſoners and Centinels: forbidden converſation will not be carried on in a loud voice, in the ears and under the eyes of the ſuperiors who forbid it. Without this aſſiſtance it might be rather difficult to draw the line.

By rejecting this aſſiſtance, the requiſite quantity and expence of walling that *might* be thought requiſite, might be encreaſed in another way. The higher the wall, the more obſtructive to ventilation. The higher the wall, the more ample the ſpace that on that account it might be thought neceſſary to incloſe within it: and the greater that ſpace, the more walling it would take to incloſe it.

Did it depend upon me, though I would get a military guard if I could, yet even without ſuch aſſiſtance, truſting to ſo many other ſafe-guards, I think I would put up with an 8 or 9 foot wall. In the Look-out ſits conſtantly an Inſpector armed and inſtructed, and commanding all the Yards. By

* Or would not 12 foot be deemed neceſſary? ſince one man might mount on the ſhoulders, and perhaps for a moment on the head of another.

a bell

a bell he ſummons to his aſſiſtance at any time the whole collected force of the Priſon.

8. *To what uſe the Protection-Wall, and the Protection-Road?*——The uſe is tolerably well indicated by the name. Behind the Wall, and in the Road, in caſe of an attack by a riotous mob upon the Gates, as many paſſengers as do not chooſe to take part in it will find ſhelter: and the attack may be oppoſed with fire-arms from the building with the leſs ſcruple, as no one can ſuffer from it whoſe guilt has not made him the author of his own fate.

And would you wiſh then to ſee a perhaps well-meaning tho' culpable multitude devoted in heaps to ſlaughter?—No ſurely: though better thus than that the Priſon ſhould be deſtroyed, the Priſoners turned looſe upon ſociety, and juſtice ſtruck with impotence. But the truth is, that nothing of this ſort will happen: the more plainly impracticable you make the enterprize, the ſurer you may be that it will never be attempted. Prevention is the work of humanity. Cruelty joins with improvidence in making the inſtruments of juſtice of ſuch apparent weakneſs as to hold out invitation to a deſtroying hand.

This is perhaps the firſt plan of defence againſt rioters, of which the protection of the peaceable

paſſenger ever made a part: the firſt in which the diſcrimination of the innocent from the guilty was ever provided for or thought of.

In the inſtance of every priſon—of every public building as yet exiſting—an attack once begun, what is the conſequence? The guilty muſt be ſuffered to perpetrate without controul their forbidden enterprize, or a continual riſk incurred of involving the innocent in their fate. What is the effect of ſtreet-firing?—A medley maſſacre of rioters and paſſengers, of guilty and innocent, of men, women, and children.

The *maximum* of economy with regard to the figure of the ground, and thence of its ſurrounding Fences, remains yet to be ſuggeſted: and ſituations may be conceived, in which it would not be irreconcileable with convenience. The quadrangular figure is that which will naturally have firſt preſented itſelf. But three lines are enough to encloſe a ſpace. The ground *may* therefore be *triangular*: nor, if regularity, and beauty in as far as it depends upon regularity, are diſregarded, is it neceſſary that of this triangle any two ſides ſhould be equal. An equal legged-triangle with the legs longer than the baſe, is to be preferred to an equilateral triangle, much more to a triangle having the

the angle oppoſite the baſe equal to or greater than a right one. The reaſon is, that the figure may have a ſpace running out in length, in order to afford a ſufficient length of avenue: the point or apex being cut off, in order to form the entrance.

The number of the Centinels too, if the military plan of guarding be approved of, and if the difference in point of number be an object, will in this way be reduced from four to three.

With or without a guard, the Inſpection-principle, ſeconded by other aſſiſtances, we have ſeen, or ſhall ſee, relative to the plan of management, ſuperſedes the neceſſity without detracting any thing from the ingenuity, of Mr. Blackburne's expenſive ſyſtem of moral fortification. *If a man gets to the other ſide of the wall* (ſaid he to me one day as he has ſaid to others) *it muſt be by getting either through, or under, or over it. To prevent his getting through, I make it of ſtone, and of ſtones too maſſy to be diſplaced, as bricks may be, by picking. To prevent his getting under, I make a drain. As he undermines, no ſooner is he got within the Arch than out flows the water and ſpoils his mine.*—To prevent his getting over there was a ſyſtem of precautions one under another too long to be repeated here.—Sound logic was here combined

combined with admirable ingenuity: in all this there might be nothing which on certain ſuppoſition might not be neceſſary. What is that ſuppoſition?—that in ſome caſes a number of Priſoners, in others at leaſt one Priſoner, have time almoſt without ſtint to carry on their operations unobſerved. In all other modes of conſtruction, under all other ſyſtems of priſon-management, the ſuppoſition ſpeaks the truth. But under the Panopticon mode of conſtruction, under the plan of management which it ſuppoſes and provides for, is this the caſe?—exactly the reverſe. What Priſoner carries on plans of eſcape under a Keeper's eye?

In a dark night, it may be ſaid, *the benefit of the Inſpection-principle fails you.*—Yes, if there be no lamps ſufficient to light the wall:—Yes, if there be no *Watchman* patrolling in the houſe. The queſtion then lies between the expence of this ſyſtem of complicated circumvallation, and the expence of lighting, or rather the expence of providing a ſingle watchman to go the rounds. I ſay that a watchman will be ſufficient ſecurity without even lighting on purpoſe, and that in an eſtabliſhment like this a watchman need coſt nothing: ſince the people neceſſary for guarding and inſtructing by day, will be ſufficient to watch at night by turns. Even in the darkeſt night and without artificial light, can

a Priſoner without tools, at no more than 25 foot diſtance from the watchman, firſt force through the glaſs of a window, and then through iron bars on the other ſide? Will he hazard any ſuch attempt, when ſuppoſing him againſt all probability to ſucceed, there is ſtill a wall of 13 foot high for him to climb (I mean that which bounds the Exterior Well) and beyond that another?

To get clear altogether of the obſtruction afforded by walls to ventilation, it has been propoſed* to dig a ditch, and to ſet down the wall at the bottom of the ditch. The expedient ſeems unneceſſary, the expence of it conſiderable, and the inconvenience material and unavoidable.

The inconvenience is that whatſoever it may do with regard to ſecurity, it gives up ſecluſion. Of what breadth muſt your ditch be?—A hundred, two hundred foot would not preclude converſe with the ear: nor four hundred foot, nor a thouſand, with the eye. The grounds all round would be a continual rendezvous for the aſſociates and confederates of the Priſoners: that is, for all ſorts of malefactors. It would be a continual ſcene of plans of miſchief, and plots for eſcape. What ſhould hinder a man on the outſide from toſſing

* By the late Dr. Jebb, in a pamphlet written on purpoſe.

over

over a rope or a rope-ladder to a Priſoner prepared to receive it? What ſhould hinder twenty men from doing the ſame thing at the ſame time?

How is the ditch to be conſtructed? If the ſides are perpendicular, they muſt be ſupported by brick-work, or the earth will be continually waſhing and crumbling in, till it reduces the depth of your ditch, and conſequently the height of your wall, to nothing.—Are they to be thus ſupported?—Then beſides the expence of an enormous ditch, you have that of three Walls inſtead of one.—Are they to be ſloping without brick-work? The width of this enormous ditch muſt then be enormouſly encreaſed, and ſtill the obnoxious effect will be gradually produced. By the Priſoners at leaſt on their ſide, every thing will be done, that can be done, to accelerate it. Among their friends too on the outſide, to contribute a ſtone or an handful of earth will be a pious work.

At any rate you have on each ſide a receptacle for ſtagnant water.—Which would be the greater? the ſervice done to health by the ſinking of the wall, or the detriment, by the accumulation of this water?

It would be incompatible with the mode of guarding above propoſed, by Centinels incloſed in inacceſſible lanes: unleſs ſtationed at ſuch diſtances

as

as would occaſion an enormous addition to the length of their walks, and to the quantity of ground conſumed. For it would be altogether ineligible to bring the guards ſo near as to poſſeſs an eaſy intercourſe with the Priſoners

Were it indeed worth while, the advantage in point of ventilation expected from this idea, might be obtained by a partial adoption of it, with the help of one of the precautions already indicated. It would not be neceſſary to lay the ſpace open all round: it would be ſufficient were it laid open at one end, and that end might be narrowed in the manner of the Approach as above deſcribed. But at that end the property of the ground on the other ſide to a very conſiderable diſtance would require to be attached to the eſtabliſhment: in ſuch manner that no ſtranger ſhould have it in his power to approach near enough to hold any ſort of converſe either with the Priſoners, or even with the Centinel; whoſe path muſt alſo be at ſuch a diſtance from the neareſt ſpot to which they can approach, as to prevent all converſe between him and them, in a voice too loud to eſcape the ear of the Inſpector in the Look-out.*

* Priſons are not by any means the only buildings to which this mode of exterior fortification, if it be doing juſtice to a precaution

caution ſo ſimple and unexpenſive to ſtile it by ſo formidable a name, might be applicable with advantage.

With a view to *inſpection*, it might be applied to all ſuch public eſtabliſhments as on account of their deſtination, of their importance, their magnitude, and their deſtructibility, are particularly expoſed to the clandeſtine enterprizes of foreign emiſſaries: ſuch as public magazines and Dock-yards. The Approach ſhould be ſo conſtructed, and the officers' houſes and ſtations ſo diſpoſed, that every ſtrange face ſhould have the gauntelope to run as it were through all their eyes, and that any inſtance of negligence on this head on the part of any one of them, ſhould be expoſed to the obſervation of all the reſt. Had a plan like this been purſued in Plymouth Rope-yard, the ſad deſtruction to which that important magazine was devoted in 1776 by the hands of a wretched incendiary, might perhaps never have had place.

With a view to *defence againſt open hoſtility*, it might be applied not only to every priſon, but to every other building, public or private, which by the provocation it holds out to rapacity or popular antipathy, is liable to become the object of lawleſs violence. A Money-bank, a great Corn-magazine, a place of worſhip belonging to any obnoxious ſect, a new erected machine which appears to threaten a ſudden reduction in the price or the demand of any kind of labour—may afford ſo many examples. With theſe precautions Dingley's Saw-mill, for inſtance, for which the nation was charged with ſo heavy an indemnity, would probably have eſcaped.

I ſpeak not here of the mode of guarding by Centinels: a ſpecies of protection which could only be afforded to public eſtabliſhments, and to ſuch eſtabliſhments as were of adequate importance. I ſpeak only of the mode of conſtructing the Approach:—its unity—its ſituation in a walled receſs—that receſs as deep as the ground

ground will allow—contracted at the entranc—and commanded by as many officers' houſes and ſtations as can be brought to bear upon it—Gates of open-work—and on the other ſide of the road a Protection-Road—covered by a Protection-Wall—all other roads, beſides that which the Approach opens to, kept at a diſtance.

§ 22. *MEANS*

§ 22.

MEANS OF SUPPLYING WATER.

TWO ſources of ſupply preſent themſelves: the rain-water collected on the roof: and common water, ſuch as the ſituation furniſhes, to be forced up by the labour of the Priſoners in the Airing-wheels.

The firſt ſupply is not a conſtant one, and will go but little way towards anſwering the exigencies of ſo numerous an inhabitancy. It muſt however be carried off at any rate: and any one of the 8 iron tubes that form the ſupports of the Inſpection-Tower, will afford a channel adequate to the purpoſe. Branches from this main would ſerve to convey the water to reſervoirs in or near to the Kitchen and the Laundry on the ſunken floor.

The only combuſtible parts of the building, or rather the only parts of the building affording a few combuſtible materials, will be the Inſpection-Lodge, the Inſpection-Galleries and the Chapel-Galleries. By way of proviſion againſt ſuch accidents, a *fire-engine* ſhould be kept in a place contiguous to the Central-Area, with pipes communicating

municating either with the reſervoirs above-mentioned, or with the more copious and certain ones, which ſupply the water that is forced up by the wheels.

To receive *this* water an annular ciſtern runs all round the building. It is placed immediately under the roof, and within the outer wall. The wall affords it ſupport: the roof, a covering from duſt and any other matters that might foul the water. Under it run down in a perpendicular direction to the bottom of the building, at the places where the partition walls join the outer wall, piles of iron pipes ſerving as mains, one placed between, and ſerving for, every two piles of Cells. From each of theſe mains run 12 ſhort branches with a cock to each, one to each of the twelve Cells. Of theſe mains, which for 19 Cells on a ſtory cannot be fewer than 10, ſuppoſing none to be wanting for the Dead-part, two, by the help of ſo many branches running over and acroſs the Exterior Area, will ſerve likewiſe for conveying the water up by the pumps worked by the wheels.*

Shall the whole ſupply of water be carried up to the top of the building? or ſhall the quantity re-

* To adapt them to this double purpoſe will require ſome little contrivance; but too obvious to need particularizing.

quired for each ſtory of Cells be carried no higher than is neceſſary to convey it to thoſe Cells?—The latter arrangement would ſave labour, but it ſeems queſtionable whether upon the whole it would be the moſt economical one. Inſtead of one ciſtern it would require ſix; each of which muſt have its ſupports running round the building: and though each would require but one ſixth part of the capacity of the general ciſtern, it would require almoſt as much workmanſhip, and much more than one ſixth, perhaps as much as $\frac{1}{2}$, of the materials.* To form a preciſe ſtatement of the comparative economy of the two plans, compute the value of labour ſaved by that which gives ſix particular ciſterns, and ſet againſt it the probable annual average of the extra repairs, added to the intereſt of the extra-capital which it would require.† But a more ſimple, and what ſeems to be a deciſive conſideration, is the inſecurity that would reſult from theſe annular ciſterns running round on the outſide, one under every ſtory but the loweſt. They would be ſo many ladders to climb down by: from whence would

* I ſay ſix: for if it did not anſwer to have ſo many as ſix, by the ſame rule it would not anſwer to have any more than one.

† There would beſides be the expence of the bringing ſo many pipes through the outer wall of the building.

alſo

alſo reſult the neceſſity of the further expence of having ſtrong bars to thoſe ſtories of Cells to which upon the preſent plan, as already obſerved, no ſuch guards are neceſſary.

As to the particular mode of conveying the water to the ciſtern, it is a topic I paſs over, as bearing no relation to the particular conſtruction or deſtination of the preſent building: with only this remark, that, as the height is more than double that to which water can be raiſed by the preſſure of the atmoſphere, ſome other ſort of pump than the common lifting one muſt be employed. Forcing pumps I obſerve employed in the New St. Luke's Hoſpital, and propoſed by Mr. Howard in his plan of a Penitentiary-Houſe.

§ 23. *OF THE MODE OF WARMING THE BUILDING.*

THE poſſible differences in the mode of applying artificial heat to a building by means of culinary fire may be compriſed in the following ſhort analyſis. It may be either *open* or *cloſe*: if cloſe, either *unventilative* or *ventilative*. The open, in which the fuel is burnt on hearths or in grates, with or without the benefit of a chimney, is that moſt in uſe in our three kingdoms. The unventilative is exemplified in the Dutch, Ruſſian and Swediſh ſtoves: and in England in thoſe uſed for hot-houſes, and in thoſe uſed in dwelling-houſes and other buildings under the name of Buzaglo, who firſt brought them in vogue: the ventilative, in the ſtoves called Dr. Franklin's or the Pennſylvania ſtoves, and in thoſe for which Meſſrs. Moſer and Jackſon* have enjoyed a patent for ſome years.

* Ironmongers in Frith-ſtreet Soho.

The

The common or open mode is what, on account of the expence, nothing but abſolute neceſſity would juſtify the employment of in a Priſon. Expence of chimneys, grates, and other fire implements; expence of fuel, and of the time employed in conveying it; theſe expences muſt be multiplied by the whole number of Cells: for whatever need there is of it for any one, the ſame is there for every other. Even the miſchief that might be done by fire, through deſign or careleſſneſs, ſecure as a building thus conſtructed is from ſuch miſchief in compariſon of an ordinary houſe, is not altogether to be neglected.

The ſecond or unventilative method, beſides its being far from a pleaſant one to thoſe who are not accuſtomed to it, is by no means exempt from the ſuſpicion of being unfavourable to health. The heat ſubſiſts undiminiſhed, no otherwiſe than in as far as the air in the room remains unchanged: calefaction depends upon the want of ventilation. The air will not be as warm as is deſired at a certain diſtance from the heated ſtove, without being much hotter than is deſired in the vicinity of it: between the two regions are ſo many concentric ſtrata, in one or another of which every ſort of putreſcible ſubſtance will find the ſtate of things

the most favourable to the prevalence of that noisome and unhealthy fermentation. The breath and other animal effluvia, while they are putrifying in one part of the room may be burning in another. The unchanged and unchangeable air is corrupted, the lungs, the olfactory nerves and the stomach are assailed, in all manner of ways at once: by empyreuma, by putridity and by respiration.*

In the different modes of producing these noisome effects there are degrees of noisomeness: an iron stove is worse than an earthen one: it contracts a greater degree of heat: and the vapour produced by the solution of a metal in burnt animal or vegetable oil, is an additional nuisance over and above what an unmetallic earth will produce.

* Get the stove heated upon your entrance into a German inn, in about half an hour you perceive an abominable stink: in another half hour a slight degree of warmth: in a third the heat begins to be comfortable, in a fourth it is become suffocating. Open a door or window for relief, in rushes the air in partial gusts, and gives you cold.

In hot-houses, though the unpleasant effects of this mode of warming are perceptible to many people, they are however less so than in common dwelling-rooms; hot-houses being so much less inhabited by animals whose only effect on the air is to taint it, than by vegetables, which howsoever they may vitiate it in certain ways, are found to purify as well as sweeten it in others.

Over

Over theſe impure methods of obtaining heat, the *ventilative* is capable of poſſeſſing a great advantage. The air which is to receive the heat being continually renewed, may be brought from the pure atmoſphere without; and inſtead of being ſtagnant, flows in in a perpetually changing ſtream. Inſtead of burning in one part while it is freezing in another, the air of the room is thus rendered throughout of the ſame temperature. A ſucceſſion of cold air from without is the leſs neceſſary, as the warm air, what there is of it, is not leſs pure:* and this pure though heated air, if introduced, as it ought to be, from the lower part of the room helps to drive up before it, to that part of the room which is above the level of the reſpiration, that part of the air which by having been breathed already, has been rendered the leſs fit for breathing.

By the Pennſylvanian ſtoves theſe advantages were however poſſeſſed in but an imperfect degree.——Why?——Becauſe the *warming-chamber* was a metallic one: it was of iron. By

* It is ſuggeſted to me by Dr. Fordyce, that in ſuch a building matters might be contrived ſo that ſcarce any air ſhould enter any where that had not paſſed through the *warming-chamber*. I make uſe of that word to expreſs the receptacle through which the air is to be made to paſs in order to receive the heat.

partitions made between an iron back to the grate and another ſuch back or the brickwork behind, the air was made to paſs through a long though tortuous channel of that metal in a too highly heated ſtate.

In the room of the metal ſubſtitute a pure and unmetallic earth, the miſchief has no place.

The misfortune is, that by means of earth alone, the operation has not hitherto been found practicable, unleſs perhaps it be upon a large ſcale. In iron, your warming-chamber may be very thin, is ſoon heated, and is not liable to be put out of order by the heat. In earth, that receptacle if thick, that is of the thickneſs that muſt be given to it if made of bricks, is a long while in heating, a great deal of the heat is abſorbed and loſt in it, it gives out its heat with difficulty to the air, which, before it has had time to take up a ſufficiency of the heat is paſſed through and gone:* add to which, that in joining the bricks mortar muſt be uſed, and this mortar will be liable to ſhrink and crack by the heat and loſe its hold. On the other hand, if the

* Could not the means be found of detaining the air with advantage till it had imbibed a ſufficient degree of heat, for inſtance by a pair of valves?—This is one of many points that might require to be conſidered.

earth

earth be thin, as in retorts and crucibles, it will be liable to break by accidental violence, or crack by change of temperature: and at any rate it will not receive the heat from the fuel, or communicate it to the air, ſo ſoon as metal would.

The warming chamber, or ſet of warming-chambers employed by the artiſts above mentioned, is calculated to obviate both thoſe inconveniences. It conſiſts of earthen retorts, open at both ends, and incloſed in iron ones. The air which is to be heated paſſes through the interior earthen veſſel without coming in contact any where with the exterior iron one. The iron retort being that which alone is expoſed to the immediate action of the fire, defends from accidents the earthen one within. The earthen one, being the only one of the two that is in contact with the air, defends that element from the contaminating influence of the heated metal on the outſide.

The ventilative plan, modified in ſuch manner as to avoid the uſe of iron for the inſide of the warming-chamber, at leaſt of iron in a too highly heated ſtate, being determined upon, the queſtion is how to apply it in ſuch a building to the moſt advantage?

The

The firſt expedient that occurs is the making of what uſe can be made of the fires employed for the preparation of the food. From this ſource any quantity of heat might doubtleſs be obtained: but whether in ſuch a ſituation it could be obtained to any conſiderable amount upon advantageous terms, ſeems rather diſputable. In ordinary kitchens a good deal is produced, more or leſs of which might be employed perhaps in this way to more advantage than it is in common. But in a building of this form and deſigned for ſuch inhabitants, if the heat employed in the preparation of the food were diſpoſed of to that purpoſe to the beſt advantage, the quantity that would remain applicable to any other purpoſe would, I believe, turn out to be but inconſiderable. That it would not be always ſufficient for that of the warming of ſuch a building I am altogether confident.*

* The moſt economical mode of dreſſing food by culinary fire is either *baking* or *boiling*. Baking, if performed upon the moſt economical plan, might be conducted in ſuch a manner as not to afford any heat at all applicable to any other purpoſe, as will be ſeen below. The moſt economical mode of boiling is in what are commonly called *coppers*, becauſe commonly made of that material, veſſels bedded in brick-work with a place for fuel underneath, cloſed by a door which is never opened but for the

The deficiency muſt at any rate be made up by ſtoves to be provided on purpoſe. In this view the

the introduction of the fuel. In this way a ſmall proportion of fuel comparatively ſpeaking ſerves, ſcarce any of the heat being diſcharged into the room.

On the common plans the door conſiſts of a ſingle iron plate. It might be made double: conſiſting of two parallel plates, an inch or ſo aſunder with a bottom between: the interval might be filled up with ſand, or ſome other pure earth that is a worſe conductor of heat, if any ſuch there be. The heat would thus be the better kept in, and the outer partition of the door might be made to receive ſo little of it as not to contribute in the ſmalleſt degree to the contamination of the air.

The heat contained in the ſteam raiſed by the boiling, ſhould not be ſuffered, as in private kitchens, to eſcape in waſte. It ſhould be collected and applied by tubes iſſuing from the covers of the coppers, after the manner of a *retort* or *ſtill head*. In proportion to the quantity of the proviſion that could thus be dreſſed by ſteam, would be the quantity of heat that would be ſaved. The ſteam veſſels would be ranged in front of the boiling veſſels, upon an elevation ſomewhat higher. The boiling veſſels, in order to catch as much of the current of fire as poſſible in its way to the chimney back, ſhould extend as far back as was conſiſtent with convenience. Hence too another advantage: they would have the more ſurface, and the more ſurface the more ſteam they would yield to the ſteam veſſels, with a given quantity of heat in a given time. The better to confine the heat, it might be worth while *perhaps* * to make the ſteam veſſels, as alſo the covers and necks

* Dr. Fordyce from experience, ſays *certainly*.

of

sort sold by the ingenious artists above-mentioned present themselves as the most eligible yet known.

of the boilers double, with a lining of some badly conducting substance, such as flannel or feathers, between the parallel plates.

The following fact, communicated by an intelligent and reverend friend, will help to shew how far any attention that can be paid to the confinement of heat is from being a trivial one.

In the parish of P——, in the county of W——, live two bakers, T.W. and T. R.—T. R's oven is better protected than that of T. W.: that is, so situated and circumstanced, that whatever heat is introduced into it is better confined within it, less drawn off from it by surrounding bodies. Observe the consequence.——To bake the same quantity of bread takes upwards of three times the quantity of fuel in the badly protected oven that it does in the other.

The following are the data in the precise state in which they were given: from whence the accuracy of the calculation may be judged of.

In T. W's oven (the badly protected one) it takes 15 pennyworth of wood to bake 40 gallon loaves.

In T. R's, it takes but 8 pennyworth of wood (4 faggots at 2d. each) to bake 50 gallon-loaves; and when he bakes a second time the same day, it takes but half the quantity.

In a vessel consisting chiefly of iron, weighing upwards of a ton, contrived for the purpose of hatching eggs, Dr. Fordyce many years ago produced by a single lamp of the smallest kind in use, and communicated to the iron, a permanent degree of heat equal to that of boiling water. In the same vessel, by the same means, he produced an addition of heat to the amount of 60 degrees, raising the temperation from 40 to 100 in a large space in which a constant current of air was pervading every part. The use of

feathers

What then is the degree of artificial heat which the whole of the apparatus employed ſhould be capable of maintaining?—What ſize and number of ſtoves would be neceſſary to inſure it?—From whence ought the air to be taken into the warming-chamber?—Whereabouts to be diſcharged from it?—How to be made to viſit every Cell?

As to the number of degrees of extra heat which the apparatus ſhould be capable of affording, it ſhould hardly be leſs than 40 of Fahrenheit's ſcale. Forty added to 32, the degree at the freezing point, would make 72, 17 degrees above the height commonly marked *temperate*. But in time of froſt the heat is commonly more or leſs below the freezing point: one inſtance I remember of its being ſo much lower as 46 degrees: 14 below 0. This, it is true, was for a few hours only, and that in the open air, and in a ſituation particularly expoſed. And in a building where the kitchen fires might at any rate afford ſomething, and the

feathers, ſuppoſed to be the worſt conductors of heat exiſting, was the contrivance on which the production of thoſe effects principally depended. Suppoſe the knowledge thus gained applied to the purpoſe of dreſſing the food in the manner of an oven, what would be the ſurplus of heat applicable to the purpoſe of warming the building?——None.

warmth

warmth of ſo many bodies, added to that of ſo many lights, would afford ſomething more, and where the thickneſs of the walls would afford ſo much protection againſt ſudden viciſſitudes, no ſuch very extraordinary deficiencies ſeem probable enough to be worth providing for. My learned adviſer above-mentioned thinks I may venture to ſet down the loweſt degree to be apprehended as 25. Forty added to this makes 65, 10 degrees above the temperate point. This may be more than will ever be neceſſary. But in a permanent proviſion, ſome allowance ſhould be made for accidents, and in a buſineſs of ſuch uncertainty, ſtill more for miſcalculation. Officers, it is to be remembered, not leſs than priſoners, muſt be kept in view. Should neceſſity be the only object to be provided for in the one caſe, comfort and cuſtom muſt be attended to in the other. Happily for the leaſt regarded claſs, in a building of this form to be warmed in this manner, very little diſtinction in regard to this important branch of comfort can be made.

As to the number and ſize, the ſeven ſupports (one of the eight being made uſe of as a water-pipe) afford ſo many chimneys, each of which is capable of receiving its ſtove. But how many out of

of the ſeven would be neceſſary, and thoſe of what ſize? Experience would determine: but as a proviſion muſt be made in the conſtruction of the building antecedent to any experience that can be obtained in the building itſelf, *data* collected from experience of other buildings muſt be looked out for. Such *data* are not altogether wanting. A ſingle ſtove of Moſer and Jackſon's conſtruction, being employed in St. George's Church Bloomſbury, raiſed the heat *eleven* degrees of Fahrenheit's ſcale, and it did not appear that it was able to raiſe it any more. To produce in that Church 40 degrees of extra heat, the number above fixed upon for our priſon, it would therefore require *four* ſuch ſtoves. What follows?—That to aſcertain *a priori* from the above *datum* as well as may be the ſize and number of ſtoves of the ſame conſtruction neceſſary for our building, three other *data* would be neceſſary: the dimenſions of the above ſtove: the dimenſions of the inſide of that Church, and the dimenſions of the inſide of the Panopticon propoſed: noting withall that the quantity of glaſs in the central Sky-light, in the Annular Sky-light, and in the Cell Windows, added to the number of the Partition Walls between Cell and Cell, would probably lay the Panopticon

under

under ſome little diſadvantage in compariſon with that Church.

In the above manner ſome conjecture may be formed relative to the total quantity of calefactive power that would probably be requiſite: I mean of the ſum of the contents of the warming-chamber, in whatever manner they may be diſpoſed.

But when the ſum total of the contents is fixed upon, the number and relative ſize of the ſeveral warming-chambers is not a matter of indifference. Equality of diſtribution requires that the number ſhould be as great as poſſible, and the capacities of the ſeveral warming-chambers equal. Eight ſupports, that is eight chimneys to the twenty-four piles of Cells, would give a ſtove to every three piles of Cells. The Dead-part occupying the ſpace of five piles of Cells, the middle one of the three ſupports that look to the Dead-part would be the proper one to give up, and make uſe of as a water-pipe: the ſeven others would afford ſeven ſtoves among nineteen piles of Cells *.

* Total capacity out of the queſtion, the mere number would not raiſe the price to more than 24½ guineas: the price of one of the leaſt ſize ſold by Moſer and Jackſon being no more than 3½ guineas; but the quantity of calefactive power obtainable from

Will the diſtribution thus made be ſufficiently minute? Experience alone can decide with certainty. Of the three piles of Cells correſponding to each ſtove, the middle one, if there were any difference, ſhould receive more heat than the other two. But this difference I ſhould expect to find little or nothing, and if it were but ſmall, it would be rather a convenience than otherwiſe: varieties of temperature might thus be adjuſted to differences with regard to employment, health, conſtitution and good behaviour.

At its exit from the Warming-chamber, ſhall the heated air be ſuffered to take its own courſe, or ſhall it meet with a tube to conduct it to the part at which it begins to be of uſe? This too would be matter of experiment, and the experiment might be performed without any conſiderable expence. Terminating in the neareſt part of the Intermediate Well, each tube would require about 14 foot in length. For the materials, the worſt conductors of heat that would not be too expenſive ſhould be ſelected: a ſquare pipe of four thin

ſeven ſmall ſtoves would probably go but a little way towards furniſhing 40 degrees of heat to ſuch a building.

boards of that length, each four or five inches over. Theſe might be covered with a caſe of looſe cloth of the texture of the warmeſt blanketing: which, to keep off the duſt, and contribute ſtill more to the confinement of the heat, might be encloſed in a ſimilar tube. If by the help of theſe *radial* tubes the diſtribution were not found equal enough, they might be made to terminate in a *circumferential* one of ſimilar materials: the whole of the *channel of communication* or *diſcharging duct*, as it might be called, would thus repreſent the exterior part of a wheel, compoſed of hollow ſpokes terminating in a hollow felly. The felly thus conſtituted ſhould be pierced at equal and frequent intervals with equal apertures, the ſum of which ſhould be equal, and no more than equal,* to the ſum of the apertures of the radial tubes.

Why theſe radial tubes? ſince, as far as they extended, they would prevent the horizontal diſtribution of the heat, and, though compoſed of ſuch materials as to abſorb as little of it as poſſible, they would at any rate abſorb ſome.—For this reaſon:

* If greater, the heated air might be diſcharged at the neareſt part of the circumferential tube before it had attained the moſt remote.

that without them a great part of the air, indeed the greateſt, by mounting directly to the ceiling of the ſunken ſtory, would be already 4 or 5 foot above the floor of the loweſt ſtory of the Cells: and the ceiling, as well by the nature of its materials as by its relative extent of ſurface, would abſorb beyond compariſon more of the heat than would be abſorbed by the tubes.

The *horizontal* diſtribution of the heated air being thus provided for, *how to provide for its diſtribution on a perpendicular direction* among the ſix ſtories of Cells in the ſame pile? For if no particular proviſion were made, the natural tendency of the heated air being to make its way out by the ſhorteſt paſſage, the greater part of it would mount up perpendicularly to the ſky-light, where it would neceſſarily find chinks at which it would make its exit, without ever having viſited the Cells.

To prevent this aberration, and to inſure a regular draught through every Cell, I inſert a chain of tubes reaching from bottom to top, but with regular interruptions.* In the floor of each Cell of

* For the general idea of a ſet of perforations for this purpoſe, and a view of the neceſſity of employing them, I am indebted to the obliging ſuggeſtion of Dr. Fordyce.

the loweſt ſtory of Cells, cloſe to the front wall, at an equal diſtance from the two ſide-walls, and conſequently at the crown of the arch, I leave a round hole, ſay 4 inches in diameter, paſſing through the brick-work into the ſunken ſtory below. To this hole I adapt a hollow tube of thin caſt iron, of the ſame diameter. This tube is continued in height to within a few inches of the ceiling above; which brings it to between 8 and 9 foot in length. Arrived at that height, it terminates in a horizontal mouth, which may be cloſed by a ſort of grating, transformable at pleaſure into an unperforated plate.* Between this mouth and the lower end of the tube is a wire grating, to prevent correſpondence by papers. Immediately over this tube, is the open end of a ſimilar tube with an expanding aperture, fluſh with the ceiling, and conſequently at a few inches diſtance from the

* A neat contrivance for this purpoſe is employed by Meſſrs. Moſer and Jackſon. Out of a circular plate of braſs, ſpaces are cut in the form of *radii*, equal in dimenſions to the quantity left. Under the metallic ſtar thus formed, a ſimilar one is ſtowed, connected with the upper one by a pivot on which it turns. On giving a ſlight turn to the under ſtar, it moves from under the upper one by which it was covered before, fills up the interſtices, and the aperture is compleatly and exactly cloſed.

mouth

mouth of the firſt mentioned tube, partly for the purpoſe of inviting the current that way in the ſame manner, partly for the ſake of conveying the breathed air of that lowermoſt Cell into the upper region of the next above it: and ſo all the way up.

The uppermoſt of all this chain of tubes runs through the roof, and opens immediately above. It may be there covered with an horizontal valve, the weight of which will be ſufficient to cloſe it, and exclude the colder air on the outſide. When lifted up by the ſtream of heated air from within, the efflux of that air will be ſufficient to prevent the influx of the colder one from without.

Why, inſtead of a ſimple hole in the brick-work, a tube, and that running to ſuch a height?—For two reaſons: that it may not afford a means of ſecret converſe between the Cells: and that the air which has been breathed in the Cell below may not be conveyed to any part, in which it would be liable to be breathed again, of the Cell above: it is accordingly diſcharged as high as poſſible above the level of the organs of reſpiration.

Should the precaution be deemed neceſſary, a few ſlight bars might be diſpoſed in ſuch a manner as

to prevent a priſoner from introducing his head or ear, near enough to the mouth of the tube to gain an opportunity of converſe. But frugality forbids the being at the expence of theſe bars, before experience had ſhewn the need of them. The probability is that no ſuch need would ever occur: ſince a man could not make uſe of the aperture of the tube for ſpeaking without mounting upon ſomething, nor mount upon any thing for that purpoſe without ſubjecting himſelf to a great chance of being obſerved. Nor then would it avail him any thing, unleſs the perſon to whom he addreſſed himſelf in the Cell above or underneath, were elevated and occupied in the ſame manner at the ſame time, which without doubling the chance of detection could not be. Add to which, that if there be more than one in either Cell, they too muſt be privy to the intercourſe: and in a ſituation like this, privity without diſcloſure may in juſtice, and ought in policy, to be put in reſpect of puniſhment, upon a footing with complicity.

The level at which the warmed air was diſcharged could not be too low: the only ſpot in which there can be a certainty of placing it without inconvenience is the floor of the Intermediate Area and

and the ſpace under the Lodge. Thus ſituated, the tube would not be above 7 or 8 feet below the level of the floor of the lowermoſt ſtory of the Cells which are to be warmed by it. If it were in the ceiling, it would be already 3 or 4 feet above them, and before it could croſs the Intermediate Well, would have been carried ſtill higher. If it were any where between the floor and ceiling, it would be in the way, and ſtop the paſſage, unleſs it were conſiderably higher than a man's head, and then it would require pillars here and there to ſupport it. To ſink it to that level, either the ſtoves themſelves might be ſunk down accordingly, or a *perpendicular* tube might drop from the warming-chamber to join the *radical* tube. The former expedient ſeems the moſt economical and the moſt ſimple.*

It might perhaps be no bad economy to have a ſort of *curtain* for the Annular Sky-light, to cover

* True it is, that though the air when heated will not naturally deſcend, yet ſudden guſts may carry it even in that direction, beſides that the heat of every ſtratum of air will of itſelf in a certain degree be communicated to every ſtratum of air that is contiguous. But theſe are aſſiſtances too inconſiderable to be adequate to the purpoſe. They would ſtill leave a great diſparity betwee the temperature of the loweſt ſtory and thoſe above it.

it as ſoon as the lights are lit in cold weather. When not uſed it might be kept coiled up on rollers, at the upper part of the ſky-light, that is, at the part where it joins the roof of the Inſpection-tower, and from thence drawn down over and acroſs the Annular Well, and faſtened by rings to ranges of hooks inſerted a little above the interior windows of the chambers over the Cells. It might be of the thickneſs and texture of the warmeſt ſort of blanketing. It would be aſſiſtant to warmth, not only by keeping the air from impinging againſt the glaſs of the ſky-light, and there diſcharging its heat, but likewiſe by ſtopping the current and directing it towards the Cells. The ſky-light, it ſhould be obſerved, muſt unavoidably be ſecured by innumerable crevices, one between every two panes: for in that ſituation, in order to prevent their cracking by the viciſſitudes of temperature, the panes inſtead of being fixed in the frame and the crevices ſtopped with putty, muſt be placed ſo as to lap over one another, without any thing to cloſe the chinks.

Proviſion remains yet to be made for the Lodge. This might be effected by a ſmall tube running from each of the ſtoves. It need be but a ſmall one:

one: for the warmth yielded by the ſupports themſelves through which the ſmoke is paſſing, cannot but be conſiderable. Not improbably it would be ſufficient. If upon trial it ſhould prove otherwiſe, it would be eaſy to add the tubes. To diſtribute the heat the better and aſſiſt the ventilation, they ſhould open at the circumference of the room, but juſt above the floor, alternating with the chimneys. The air, as faſt as it was heated by the chimneys or by reſpiration, would, together with the heated air from the tubes, make its way out at the central aperture. There would be no danger either of phlogiſtication from the iron or want of ventilation. The utmoſt heat which the ſmoke could impart to the chimneys would not be conſiderable enough to produce the former inconvenience, and the Central Aperture is a ſufficient ſecurity againſt the latter.

Were it not for the diſtance there is between the ſpot where the air receives its heat and the apartments for which it is wanted, it is evident the *diſcharging-ducts* could not be too ſhort: ſince the more extenſive they are, the more of the heat they abſorb.

As to the Inſpection-Galleries, being immediately over the ſpot at which the diſcharge of the heated air is effected, they can be at no loſs for a ſupply. It is but leaving here and there in the floor an aperture capable of being cloſed at pleaſure. Indeed it matters not how thin the floors of thoſe Galleries are: if of mere boards, the mere crevices might anſwer the purpoſe.

From whence ſhall the air be admitted into the warming chambers of the ſtoves? From the entrance, by an admiſſion-duct, a ſort of an *aviduct*, if the term may be allowed, appropriated to the purpoſe. In general this is a point very little attended to. Air of ſome ſort or other will be found every where, and any ſort it is thought, may ſerve. Air already within the building might even be taken in preference: ſince by the ſtay it has made there it has already acquired ſome heat. But if the dependence is on what draws in through doors and crevices, there can be no air any further than in proportion as there is an influx of cold air at all thoſe inlets. The cold air that comes in at the crevices will in moſt inſtances find its way to the bodies of thoſe whom it is intended to keep warm: that which comes in at the doors will in every

every inſtance. But if a ſupply adequate to the evacuation kept up by reſpiration and other cauſes, is introduced through the Warming-chambers, no ſuch influx of cold air will take place.

This aridu&t then will be nothing but a flue ſimilar to thoſe employed for conveyance of the ſmoke in hot-houſes. Short tubes of iron, will ſerve for its junction with the Warming-chambers. The quantity thus drawn in can ſcarcely be inſufficient for reſpiration ;* if it were, the deficiency might be made up by tubes diſcharging the cold air at a height above the heads of the inhabitants, and pointing upwards.†

* The quantity thus requiſite is eaſily aſcertained. The quantity of freſh air neceſſary to ſupport a man without inconvenience for a given time has been pretty well determined. This quantity, multiplied by the greateſt number of inhabitants the building can ever incloſe at the ſame time, would give the quantity of freſh air requiſite for the ſupply of the building during that time.

† Another uſe, which though collateral to the above deſign, is not the leaſt conſiderable of the advantages that might be reaped from it, is the opportunity it would afford of a ſet of experiments relative to the economy of heat. With the leaſt quantity and expence of fuel poſſible how to produce and ſupport for a given time a given degree of heat, applicable to the ſeveral purpoſes for which heat is required? Such is the problem to be ſolved: a ſubject which has never yet been taken up upon principles, or upon

The Penitentiary-Act puts an inexorable negative upon all this contrivance. According to that

upon a large ſcale. Of what importance the ſolution of ſuch a problem would be to the population and wealth of nations may be ſeen at a ſingle glance. Fuel of the f ſſil kind is a limited reſource t the .ation which conſumes it lives upon a capital which muſt ſooner or later be exhauſted. The population of a country in which artificial heat is a neceſſary of life muſt therefore ultimately depend upon the quantity it can keep up of ſuch ſort of fuel as can be obtained from the vegetab e kingdom, the only ſort which is capable of being regularly reproduced.

The facilities which a building upon the Panopticon principle would afford for experiments in this view will readily be apprehended. In the ſeven ſtoves, which without putting more than one to each chimney it admits of, trial might be made of ſo many diff rent forms. The *ventilating* mode would of courſe be taken for the c mmon baſis: but this ground-work is ſuſceptible of a great variety of modifications. The conſtruction purſued by Meſſ.s. Moſer and Jackſon, with all its ſuperiority over all preceding methods, may yet be found to fall conſiderably ſhort of perfection in this line. Doubling the Warming-chamber occaſions a great conſumption of fuel, and renders this mode of warming far from being ſo ch ap as could be wiſhed. Could not the ſame degree of extra heat be given to a building by a leſs degree of ignition given to a larger quantity of air? For, as Dr. Fordyce has clearly demonſtrated to me, the leſs the degree of heat which the air contracts in the warming chamber the better, for very material reaſons. Reducing the degree of h at given to the air by augmenting the quantity of air to which heat is given, could not there be found ſome ſingle ſubſtance of which a Warming-

chamber

Act all Penitentiary-houſes muſt abſolutely be warmed, "dried and moderately warmed

chamber might be made, without the addition of another receptacle to line or to encloſe it? Is it moſt advantageous to make the warming-chamber *divided* into partitions, as practiſed by Moſer and Jackſon, or *entire?* and if entire, to what extent can ſuch a Warming-chamber be carried to advantage? What is the moſt advantageous form for the Warming-chamber, and what the moſt advantageous mode of applying the fire to it, and connecting it with the fire-place? The relation being aſcertained between a degree of heat as indicated by the thermometer on the one hand, and the expanſive force on the other, and thence the velocity of current, and quantity of air ſo heated diſcharged out of a mouth of known dimenſions within a known time, could not a given degree of heat be ſecured at pleaſure to the air thus diſcharged, by cloſing the mouth with a valve loaded by a weight, which would thus indicate and expreſs by pounds and ounces the ſeveral degrees and quantities above mentioned, and conſequently the calefactive powers of the ſtove? Such are among the queſtions which the enquiry would have in view. Hitherto, partly for want of ſcience, partly for want of a proper theatre for experiment, whatever has been done by artiſts in this line has been little more than random gueſs-work. Means might not improbably be found, in ſome ſuch way as above hinted at, of aſcertaining *a priori*, I mean previouſly to any trial made in the particular building to be warmed, the calefactive power of a given ſtove, that is the quantity of air heated to a given degree which it is capable of yielding to that or any building within a given time. This indication being obtained, the ſeveral calefactive powers of different ſtoves might be compared while they were at work at the ſame time, whereas without

it

in damp or cold weather,"—" by flues," and theſe flues muſt come " from the flues in the kitchens " and other public fires belonging to each houſe."*

The invention of Meſſrs. Moſer and Jackſon, as well as all other inventions, paſt, preſent and to

it the compariſon could no otherwiſe be made than by ſetting them to work in the ſame building at different times. The ſpecies and quantity of fuel employed in the different ſtoves, the temperature of the air in different parts of the building, and of the atmoſphere without the building during the whole continuance of the experiments, theſe or other influencing or reſulting circumſtances would need to be carefully marked and regiſtered. In the ſame way the comparative calefactive powers of different ſorts of *fuel* might alſo be aſcertained. I have already hinted at the enquiries that might be made relative to the application of the heat to baking, boiling, and other domeſtic operations: not to mention thoſe which, like malting, brewing and diſtilling, are conducted upon a more extenſive ſcale. Were a courſe of experiments to be carried on with any ſuch views, on ſo new and ſo peculiarly favourable a theatre, it might be of uſe that the plan of operations ſhould be made public before hand, that ſuch lights and inſtructions as might be obtainable from the philoſophical world, might be collected before the commencement of the courſe. Philoſophy is never more worthily occupied then when affording her aſſiſtances to the economy of common life: benefits of which mankind in general are partakers, being thus ſuperadded to whatever gratification is to be reaped from reſearches purely ſpeculative. It is a vain and falſe philoſophy which conceives its dignity to be debaſed by uſe.

* 19. G. 3. c. 74. § 33.

could

come, that make no uſe of flues, is here rejected, ſeven years before it was ever thought of. I muſt be allowed a word or two in behalf of theſe ingenious artiſts. I am a co-defendant with them: a partner in their guilt. The ſame ſtatute which prohibits their mode of warming a Penitentiary-houſe, proſcribes my mode of building one, and my mode of managing one, in almoſt every circumſtance. What has the ſervice been a gainer by this rigour? We ſhall ſee—Economy, I preſume, and that alone, was the power that dictated it. Humanity, however peremptory ſhe might be in her injunctions that felons ſhould have warm bed-chambers, would not of herſelf have been thus particular about the mode.

On the kitchen fires, which are put foremoſt, ſeems to be the grand reliance: the other public fires ſeem rather to be thrown in as make weights.

That economy could draw much advantage from this ſource will not, I believe, ſeem very probable, to any one who may have caſt an eye over one of the preceding pages. A Panopticon Penitentiary Houſe is a *room*: this ſtatute Penitentiary-Houſe was to have been a *town* with ſtreets in it. In the room this reſource ſeemed to amount to little: what would

would it amount to in the town? I would as ſoon think of warming London by the fires of the tavern kitchens.

Thus then ſtands the economy of the contrivance. That the bed-chambers may be economically warmed by flues from kitchens, kitchens and kitchen-fires, and ſo forth, are to be multiplied till there are enough of them for the bed-chambers. Could the new invented ſtoves be employed on any terms under this act? By preſcribing the one mode does it peremptorily proſcribe the other? Would an indictment lie, or only a *mandamus*?—This is more than I would preſume to anſwer. But what muſt be done at all events, or the poſitive injunctions of the law diſobeyed, is—to build the kitchens. That done, and whatever degree of heat is neceſſary being produced in that way, whatever degree is not neceſſary, might perhaps be produceable in the moſt economical manner by the new invented ſtoves.

A little lower we ſhall ſee more of theſe culinary laws: but the virtue of the preſent one is not yet exhauſted. To decide this as well as all other queſtions relative to the conſtruction of the building, three ſuperintendents are employed. Suppoſe the three (no very unnatural ſuppoſition) to have

have taken up each of them a different ſyſtem about warming: one a patron of the ingenious artiſts above mentioned, another a diſciple and partizan of Dr. Franklin's, the third an adorer of the memory of the departed ſage to whom this ſtatute is ſo much indebted, and an inexpugnable defender of the letter of the law. So many Superintendants, ſo many irreconcilable modes of warming the houſe. How would they agree?——As the three original Superintendants did about the place where it was to be put.

The error lies—not in regulating badly, but in regulating at all. Economy, houſehold economy, is the child of the hour: it changes with prices, which change with the progreſs of ingenuity, the courſe of taxation, the copiouſneſs of ſupply, the fluctuations of demand, and a thouſand incidents beſides. Meddling with matters like theſe, the legiſlator will probably be wrong to day, he will certainly be wrong to-morrow.

Were I obliged to make a law about heat, I would rather enact the degree than the mode of producing it. *In no Cell ſhall the heat ever be ſuffered to be fewer than ſuch a number of degrees, nor more than ſuch another number, above the freezing*

point in ſuch or ſuch a ſcale. Inſure this degree, you whoſe buſineſs it is, as cheaply as you can.—Is the temperature thus fixed upon, a proper one? It will not be leſs ſo a thouſand years hence. Minuteneſs might be objected, but not improvidence.

To what end this economy all the while?—— that felons may have fires, or what is equivalent, in their bed-chambers. I ſay in their bed-chambers. For in theſe Cells they are to do nothing but "reſt:"* this is carefully provided: other apartments are to be given them for working-rooms and dining-rooms.†—Fires in bed-chambers for felons? Is it every gentleman whoſe bed-chamber has a fire in it, or ſo much as a place to make one? In the coldeſt and dampeſt weather, is it altogether univerſal, even in the moſt opulent families, to have a fire to go to bed by?

And have not your felons then this luxury?—Yes —that they have: and glad I am they have it— Why?—becauſe it coſts nothing: they have no other rooms than their bed-chambers. Is it that they may have warm rooms to ſleep in?—No: but that ſuch of them as are employed in ſedentary trades, may work and ſit comfortably in the ſhort

§ 33. † Ibid.

interval

intervals of their work, inſtead of ſhivering in forced and comfortleſs inaction. By night as well as by day, they work as long as health and eaſe permit. They are not, like ſome we ſhall ſee hereafter, compelled to lazineſs beyond that of the laziеſt child of luxury, chained to their beds by law.

§ 24. *OF THE ECONOMY OBSERVED IN THE CONSTRUCTION.*

IT may be reduced to three principal heads: 1. Making the ſame apartment ſerve for every thing: 2. Making the Cells capable of ſerving for two, three, or four inhabitants inſtead of one: 3. Making them no larger than is neceſſary.

1. Six ſeveral modes of action or exiſtence are incident to the perſons for whoſe reception the building is particularly deſigned: *to work*, *to eat*, *to ſleep*, *to pray*, *to be puniſhed*, and *to be nurſed*. One and the ſame place ſerves my priſoners for all of them. If the reſtriction is ſevere, it is not unexampled. In our own three kingdoms it is the lot of many hundred thouſands, perhaps of ſome millions, of better men.

I ſee nothing that ſhould hinder a man from working where he eats, working where he ſleeps, eating where he works, eating where he ſleeps, ſleeping where he works, or ſleeping where he eats. All this and more, it has more than once happened to myſelf to do in the ſame room for a conſiderable time together, and I cannot ſay I ever found any bad conſequence from it.

I conceive it not altogether impoſſible for a man, nor even for a Chriſtian to pray where he does all this: Chriſt and his Apoſtles did ſo. Synagogues excepted, neither Chriſt nor his Apoſtles knew what it was to pray in any conſecrated place.

Not that for all this I have any objection to that rite. It ſeems neither difficult to ſhew that it does ſervice to religion, nor eaſy, if poſſible, to ſhew that it does diſſervice.

In my plan I accordingly admit a conſecrated ſpace, and that by no means a confined one: a place in which no operation that does not miniſter to religion ſhall be carried on. All I contend for is that it is not neceſſary that the Priſoners ſhould themſelves be ſituated in that place: that it is ſufficient to every purpoſe if, without being ſituated there, they ſee and hear what paſſes there. The place where the Miniſter is ſituated, and where the more conſiderable part of the auditory are ſituated, the place to which the eyes and the thoughts of the Priſoners are turned, is holy ground.

As little reaſon do I ſee why the ſame place ſhould not ſerve them for being puniſhed in. Separate apartments for this purpoſe are ſurely of all luxuries one that can beſt be ſpared.*

* At Weſtminſter School, two brothers once upon a time were caught ſtraggling out of bounds. For their chaſtiſement, their father

As to nurſing, whether upon the common plans of conſtruction, ſeparate rooms for that uſe were neceſſary, is not ſtrictly to the purpoſe here. The bed-chambers being all ſingle ones, I do not immediately apprehend what advantage the patients were to get by being removed out of thoſe rooms into others, unleſs it were that of having fires in their rooms, a benefit which without ſhifting their quarters they might have received from portable ſtoves. A portable ſtove not only coſts leſs than a room, but is ſooner made. Were the Infirmary-rooms at any time to be filled, it would be rather an aukward circumſtance for a patient in a high fever to wait for attendance till an additional Infirmary could be built and in readineſs to receive him. At Moſer and Jackſon's, a good portable ſtove may be had upon the pureſt

father, a character not unknown in thoſe days, cauſed two ferulas to be made on purpoſe. The ſum of each culprit's tranſgreſſion was inſcribed upon the inſtrument of his puniſhment: and care was taken that in the correction of him who had ſtrayed to St. John's, the ferula ſhould not be employed which was deſtined to wipe out the guilt that had been contracted in Tothill-Fields. I remember the boys, the father, and the ſticks. The mode of chaſtiſement was, it muſt be confeſſed ſtriking enough, but was it a neceſſary one? As neceſſary at leaſt as it would have been to have built rooms to puniſh them in. And of the two contrivances, building a room, and engraving a couple of words upon the head of a ſtick, which is the moſt expenſive?

principle for 3½ guineas ready made: ſtoves of inferior quality, and leſs elaborate contrivance, probably at a ſtill cheaper rate.

But be this as it may in the Penitentiary-town deſigned by the Act, in a Panopticon Penitentiary-houſe, nurſing rooms on purpoſe would be unneceſſary beyond diſpute. Rooms better adapted to that uſe than every Cell is of itſelf, or even ſo well, can hardly be ſhewn any where. By nurſing-rooms on purpoſe I mean rooms, which when they are not put to this uſe are not put to any other. For as to particular Cells, more particularly well ſuited to the purpoſe of an *Infirmary*, than other Cells, ſuch have already been pointed out, and under that very name:* but the convenience they would afford to the ſick, is no reaſon why, when there are no ſick, they ſhould remain unoccupied. Indeed the whole of the upper ſtory of Cells is peculiarly well adapted to this uſe. None of the air that has viſited any one of theſe Cells ever viſits any other part of the whole building: and being ſo much nearer than any others to the roof, they can receive a portable ſtove and its chimney, with ſo much the leſs inconvenience and expence.†

* § 6. *Dead part.*

† A ſeparate Infirmary for a Panopticon Penitentiary-houſe? I would not deſire ſuch a thing even for the plague. Guarded by proper

All theſe different ſets of apartments the Penitentiary Act ſuppoſes—all but one, the dining-

proper regulations, I ſhould not have the ſmalleſt apprehenſion of inhabiting the Inſpection-tower, while the Cells were filled by patients dying of that diſeaſe. How much leſs would there be to fear, where the only danger is a poſſibility of its importation by goods or paſſengers on account of the country from which they come? A LAZARETTO may accordingly be added to the number of the eſtabliſhments to which the Panopticon principle might be applied, under ſome variations, to ſignal advantage. On caſting an eye over the *Table of ends and means* at the end of this volume, the reader will eaſily diſtinguiſh ſuch of the latter as are applicable to this purpoſe: he will alſo diſtinguiſh with equal facility ſuch of the expedients as being adapted to oppoſite purpoſes would require to be diſcarded or changed. As to comfort, amuſement, luxury in all its ſhapes, it is ſufficient to hint that there is nothing of that ſort that need be excluded from ſuch an hotel any more than from any other. But every thing of luxury apart, what would not Howard have given for a Cell in a Panopticon Penitentiary-houſe as here deſcribed, inſtead of the apartment in the Venetian Lazaret, the ſtench of which had ſo nearly coſt him his life?*

I muſt not dwell in this place on a ſubject of ſo confined a nature and ſo foreign to the preſent purpoſe. I will only juſt add, that the plan of warming as here deſcribed would afford a method peculiarly advantageous of airing the cotton wool, which is the great and dangerous article in the Levant trade. Laying the cotton in light ſtrata upon numerous and ſhallow ſtages, in ſheltered warehouſes, occupying the ground floor of the Cellular part of the building, it might eaſily be ſo ordered, by flues or pipes leading from the back part of thoſe ſtages to the ſtoves in the Inſpection-tower, that not a particle of air ſhould viſit the fire in the ſtoves,

* Howard on Lazaretto, p. 11.

that

rooms, it expreſſly orders.* I ſee no mention in it of powdering-rooms.†

On the common Penitentiary plans each priſoner muſt at any rate have a ſleeping-room to himſelf.—Why?—Becauſe, being under no ſort of inſpection or controul during the hours allotted for ſleep, which under the common management occupy the greateſt part of the twenty-four, even two, much more any greater number, might prompt and aſſiſt one another in plotting to eſcape. But the rooms they ſleep in might at ſome times be too cold for working in, or they would not hold the machines which it is thought adviſable to employ, or their work requires that they ſhould be

that had not made its way through the cotton on the ſtages. The ventilation, beſides being ſo much more perfect, not depending as it muſt otherwiſe upon the uncertainties of the weather, the continuance of this irkſome and expenſive probation might be ſo much the ſhorter.

* Not exactly ſo. Meals, for aught I ſee, might be made in the working rooms: they cannot, however, in the ſleeping-rooms. § 33. I am not certain whether Mr. Blackburn put dining-rooms in his plans: I think I have heard he did. Two Chapels I know he had put in for the National Penitentiary-houſe: one for each ſex: but ſtruck out one of them upon its being ſuggeſted to him that it was poſſible for the two ſexes to be in the ſame place at different times.

† I was once much preſſed to put a Tennis-court in my plan: for felons have not leſs need of exerciſe than honeſt men. Powdering-rooms are more common, and would be leſs expenſive.

under the eye of an Inſpector, which they cannot be in theſe rooms. Therefore there are to be other rooms for working in.

Have any notions about health and airineſs contributed to this opinion about the neceſſity of different rooms for the different parts of the twenty-four hours? I am not certain: though ſomething to this effect I think I have obſerved in the publications of Mr. Howard. But even under the common Penitentiary diſcipline, I ſhould not think any ſuch multiplication neceſſary: much leſs under the plan of management here propoſed. To how many hundred thouſands of his Majeſty's honeſt ſubjects is ſuch luxury unknown! Even among perſons ſomewhat above the level of the loweſt claſs, what is more common than to have but one room, not only for one perſon, but for a whole family, man, wife and children? and not only working, and ſleeping and eating, but cooking to be performed in it. Among the Iriſh cottars, as we learn from Mr. Arthur Young, that is among the bulk of the Iriſh people, one room is the only receptacle for man, wife, children, dog and ſwine. Has that one room ſo much as a ſingle window in it, much leſs oppoſite windows, or any aperture but the door? In towns where one room forms the ſole dwelling-place of a whole family, has not that room cloſed windows in it? Is there any commanding power

to enforce the opening of any of thoſe windows? Does not the averſion to cold forbid it? Are they ſo much as capable of being opened, if at all, for more than half their length?—and that the lower half?*—

Let me not be miſtaken. Far be it from me to propoſe the manner in which the common people live through ignorance, as a proper model to be purſued by thoſe who have the good fortune to be poſſeſſed of more intelligence. Far be it from me to inſinuate that a bad regimen ought to be preſcribed only becauſe it is practiſed. All I mean is, that the degree of airineſs moſt frequent in the dwellings of the greater part of the people is inferior, and much inferior, to that which might be obtained without multiplication of rooms, even according to the hitherto received mode of conſtruction for Penitentiary-houſes, and according to the mode of management hitherto purſued in them. In priſons even ſo managed, the inhabitants would not in this reſpect be worſe off, but much better off, than the common run of men at liberty. Yet

* Were ventilation the object, the upper ſaſh would be the one to open in preference, eſpecially where the higheſt part of the lower one is no above the level of the organs of reſpiration. Were it not for accidental guſts, ſo much of the air as is above the aperture might remain for ever unchanged. It may perhaps have been partly on this conſideration that in Mr. Howard's and the Wymondham plans the holes ſerving for windows are placed ſo high.

even in this reſpect how inferior are ſome of the moſt approved plans of conſtruction in compariſon of the one now propoſed!* There, when you ſhut out rain or ſnow, you ſhut out air. There, rain or not rain, windows open or not open, you have freſh air in plenty: in much greater plenty than is uſual in a palace.

2. Of ſuch part of the ſaving as reſults from the ſubſtituting a ſteady plan of mitigated ſecluſion in ſmall apartments to an alternation of ſolitude and promiſcuous intercourſe, nothing farther need be ſaid here: it has been fully vindicated in a preceding ſection.

3. Of the waſte of room obſervable in the common plans, a great part is to be placed to the account of *height*. Not more than eleven feet, but not leſs than nine, is the height preſcribed by the Penitentiary Act.† The Wymondham houſe takes the medium between theſe two extremes.‡ Waſte it may well be called. I ſuſpected as much at the time of writing the letters. I ſpeak now with deciſion, and upon the cleareſt views. In reſpect of health, height of ceiling is no otherwiſe of uſe than as a ſort of ſuccedaneum to or means of ventilation. In either view it is beſide the purpoſe: as a ſuccedaneum, inadequate; as a means, unneceſſary. If your air in-

* Supra, p. 134. † § 33. ‡ Supra, p. 133.

deed is never to be changed, the more you have of it, the longer you may breath it before you are poiſoned: this is all you get by height of ceiling. But ſo long as it is undergoing an inceſſant change, what ſignifies what height you have? Take a Panopticon Penitentiary-houſe on one hand, and St. Paul's employed as a Penitentiary-Cell, on the other. Let the Panopticon, aired as here propoſed to be aired, and warmed as here propoſed to be warmed, contain 4 or 500 priſoners. Let St. Paul's, hermetically cloſed, have but a ſingle man in it. The Panopticon would continue a healthy building as long as it was a building: in St. Paul's the man would die at the end of a known time, as ſure as he was put there.*

* In the letter on Hoſpitals, the Reader may recollect what is ſaid in commendation of an idea of Dr. Marat's with reſpect to ventilation, and the form of conſtruction propoſed by him in conſequence. What he ſays is very juſt, as far as it goes: but the truth is, that ſo long as proper air holes are made, and proper means employed for determining the air to paſs through them, there is no form but may be made as ventilative and by that means as healthy as his. At that time I had never experienced the heart-felt ſatisfaction I have ſince enjoyed, of viſiting a London Hoſpital. I had not then ſeen either St. Thomas's or Guy's. I had no idea of the ſimple yet multiplied contrivances for inſuring an unremitted yet imperceptible change of air, nor the exquiſite purity and ſalubrity that is the reſult of them. If I had, I ſhould little have thought of ſending Engliſhmen to France, or any other country, for Hoſpital practice or theories of ventilation.

In this one article we may ſee almoſt a half added to the expence in waſte. Ten foot from floor to ceiling, when leſs than ſeven foot would ſerve! When leſs than ſeven foot does ſerve, and ſerves to admiration. I am almoſt aſhamed of the eight foot I aſk: it is for the mere look's ſake that I aſk it. The experiment has been tried: the reſult is known, though not ſo well known as it ought to be. Have the *hulks* ten foot of height? have they eight foot? have they ſeven? I look at Mr. Campbell's *hulks*, and to my utter aſtoniſhment I ſee that nobody dies there. In theſe receptacles of crowded wretchedneſs, deaths ſhould naturally be more copious than elſewhere. Inſtead of that, they are beyond compariſon leſs ſo.—I ſpeak from the Reports.——I know not the exact proportion: my ſearches and computations are not yet compleat: but as to ſo much I am certain. I ſpeak of the ordinary rate. Now and then indeed there comes a ſad mortality—Why?—becauſe where peſtilence has been imported, hulks neither do nor can afford the means of ſtopping it. But, bating peſtilences, men are immortal there. Among 200, 300, quarter after quarter, I look for deaths, and I find none.——Why?——becauſe Mr. Campbell is intelligent and careful, Pandora's cordials unknown there, and high ceilings of no uſe.

This experiment is new matter: it is no fault of the legiſlators of whom I ſpeak not to have made uſe of it. In their time it did not exiſt. How ſhould it? It was this very ſtatute of theirs that produced it. While they were building their Penitentiary-Caſtle with one hand, they little thought how with the other they were cutting the ground from under it. The information does exiſt now: the fault will be not theirs but that of their ſucceſſors, if, like the Wandſworth purchaſe, the knowledge thus acquired lies in waſte.

Mention not the mortalities; it is impoſſible they can have had the low ceilings for their cauſe. The mortalities have been rare: for theſe three or four years none: from that period immortality begins. Have the ceilings been higher ſince that time; Had Captain Cook ten foot, eight foot, ſeven foot between decks? Captain Cook, under whom in a voyage that embraced all the climates of the globe, out of 80 men not a ſingle one died in a ſpace of between four and five years:* out of 112 in the ſame time but five, nor of thoſe more than two in whom the ſeeds of death had not been ſown before their embarkation.

What was your National Penitentiary-houſe to have coſt?—£120,000.—*How many was it to have*

* Four years, two months and 22 days. See Cook's Second Voyage. Introduction.

holden?—960.—*What did your Liverpool Jail coſt?* *About* £28,000—*How many will that hold?*—270. —*What?*—*make the nation pay* £120 *for what you have done for* £100. *How comes that about?*—*How? why from the Act. The Act will have high ceilings* —*how could I lower them? The Act will have ſpacious rooms*—*how could I narrow them? The King was to pay for every thing: Every thing was accordingly to be upon a royal ſcale. At Liverpool it was otherwiſe: thoſe who ordered were to pay.*—Such was the purport of a converſation I had with Mr. Blackburn.

END OF PART I.—POSTSCRIPT.

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